

AN ESSAY
ON
THE EPIDEMIC CHOLERA.

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AN ESSAY

ON

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THE EPIDEMIC CHOLERA ;

BEING

AN INQUIRY, INTO ITS NEW, OR CONTAGIOUS
CHARACTER ;

INCLUDING

REMARKS ON THE TREATMENT ;

AS LIKEWISE,

TABLES OF THE AVERAGE RATE OF DISEASE AND MOR-
TALITY, RECENTLY OCCURRING IN LONDON.

BY

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“ Morbi acuti Deum habent acutorem, chronici ipsos nos.”

SYDENHAM.

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NOTWITHSTANDING the number of works, already published, on the lately epidemical disease; the following essay is submitted to the consideration of the medical profession, in the belief, that however amply some points connected with the subject, may have been already investigated, they will still allow farther examination.

The question of contagion, although apparently speculative, constitutes one of the most important points, which can occupy attention, whether of the philosopher, or physician; for until a definite opinion be established on the subject, doubt and uncertainty, will envelop many subsequent proceedings. Whether the cholera was a disease known to former medical authors, or is actually new, and recently imported, being likewise a matter of importance, is amply discussed in these

pages; indeed, this, and the previous question, form a principal part of the publication.

A short account of the ancient sweating sickness, with the treatment to be pursued in cholera, as also tables showing the rate of mortality, and amount of disease recently occurring in London, complete the inquiry. How far the objects in view, have been attained, others, not the author, can properly determine.

56, Grosvenor Street,

June, 1832.

On the 18th of May, clean bills of health were issued to ships, leaving the port of London, as cholera had ceased in the metropolis.

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ON THE EPIDEMIC CHOLERA.

CHAPTER I.

GENERAL OBSERVATIONS AND INTRODUCTORY REMARKS.

CONSIDERABLE information may be acquired, and much light even thrown, upon some features displayed by the epidemick, now prevalent in various parts of the empire, if we but cast our eyes over the transactions related, as peculiar to diseases of former ages, and particularly, if we look back, and review the writings of the older authors, living, as for instance, about the era of the great plague of London. Much instruction, and matter for serious reflection, will in this way be procured, if amongst other subjects our attention be directed to the violent controversy, and those attendant, or collateral questions, regarding the contagious character of the disease, which then, and subsequently, agitated the physicians of the metropolis; and like similar occurrences of modern times, equally affected and interested the great mass of society.

In the questions then, and afterwards discussed, by the medical profession, we find many combatants enrolled on both sides, some being of great fame and respectability. And amongst these, the name of the learned Dr. Mead, as

taking an active and leading part, is most conspicuous. He was in truth, considered the head of one of the parties engaged in the controversy : he led the contagionists of the day ; and the writings published by him in defence of this doctrine, as likewise, the fierce attacks he sustained from those in opposition, show the zeal and interest he took in the question. It is indeed somewhat amusing, to read the arguments, and learn the facts gravely brought forward, in support of each particular hypothesis ; and we are struck at the same time, when we observe the similarity exhibited, in many points of the controversy of those days, with the present. This indeed is most remarkable. But although anxiety, and sometimes perhaps a want of temper, may be seen in the zeal felt by more modern controversialists, the violence formerly shown, and the personal abuse then employed against opponents, is now almost unknown. And we may even congratulate ourselves on finding, how different matters now are, from the occurrences related of these stormy times, when even the great character of Mead, was unmercifully attacked, his doctrines denied, nay, his facts disbelieved, and the very name of contagion scorned ; whilst those supporting such an opinion, were laughed at, and reviled.

In medicine, as it is sometimes also found to be the case, in other sciences ; when an individual or party, zealously enter into a controversy, or take up one side of a particular question, the human mind is then naturally, and almost imperceptibly too much disposed, only to contemplate, or to give attention, to those facts and arguments bearing out the theory, they wish to support ; the same mental bias leading them besides, to disregard and overlook, every circumstance or reason, having an opposite tendency. This ought always care-

fully to be guarded against, in scientific investigations, for mistakes may thus, even unintentionally, be committed, which more impartial observation, and maturer thought would have corrected. During the investigation embraced in the following essay, this path, so often leading to error, will if possible, be sedulously avoided; and however difficult it may be to maintain impartiality, the effort will at least be made, and it is hoped, if not wholly, perhaps in part successfully. The intention being to examine a subject, allowed to be intricate, and involving questions difficult to solve, to arrive at just conclusions, any leaning ought to be against the opinions we are anxious to establish; for to act otherwise, is to become a partisan, instead of endeavouring to be, an impartial inquirer.

Since the period now mentioned, it may justly be asserted, no medical subject has in the last century, or in modern times, excited so much attention, not only in the medical profession, but perhaps also with the public at large, as the cholera: the very mention of such a disease, has even in some instances, almost frightened individuals into the belief, that they had become affected with the pestilence, from only hearing a detail of its symptoms; others again, influenced by their vivid imagination, had formed to themselves so exaggerated notions, regarding its virulence, and highly contagious character, that to pass near a house where the disease prevailed, and still more, if they had been in the same room with a sick person, there was then no possibility of escaping, as this was quite sufficient, to propagate the contagion.

The frightful statements repeatedly made, of the great devastation committed by the disease, in those distant countries, where it had lately prevailed, fully prepared the public mind for something unusual, as a pestilence,

if not hitherto unknown ; and when the complaint was announced from authority actually to have arrived on the shores of the United Kingdom, the very isle seemed frightened from its propriety, and nothing short of utter extermination was denounced, and perhaps expected by persons in all classes of the community.

The pestilence has now been amongst the inhabitants, for many months, has affected different points of the kingdom, and has been prevalent amongst a class of people the most liable to disease of any kind, besides it has attacked those persons having less power than any others to resist even the slightest malady ; nevertheless, the alarming predictions formerly put forth, have not yet been verified, to such an extent, as ought to cause a great nation to be alarmed, far less, to induce the medical profession of this country to believe, that a pestilence, like the one which broke out in London in the month of November, 1348, and also called the cholera, has commenced, or is likely again to re-appear in the metropolis.

No person of course, can pretend to predict what may take place in this, or future years, but let us hope always for good, and not unnecessarily forebode evil. If we may however judge, from what has already taken place in this country, it must be a matter of great gratulation to all, and ought surely to encourage those timid persons foretelling destruction, that the epidemick now prevailing in the metropolis, so far as it has yet extended, or enables us to predict, by no means appears to commit such ravages, as the great scourge already alluded to, occurring in 1348, whereby, it is said on good authority, every tenth person in London fell a sacrifice. The disease afterwards proceeded to other places, north and east of London, having first appeared in Devonshire ;

and it proved especially mortal at Norwich, where upwards of 57,000 of the inhabitants died, before its virulence had terminated. Nor can the present disease be at all compared, either in its extent or devastating effects, to the plague formerly so often prevalent in London, constituting an epidemick, which during the year 1665 carried off upwards of 68,000 persons, and at a time when, it should be remembered, there was contained in the metropolis, a much smaller population.

Although it be justly denied, the epidemick now prevalent, has at all so pestilential a character as any of those diseases observed in ancient times ; or the effects, hitherto following in the train of this complaint, have been in any degree commensurate with what, the fears of the timid, or the alarming predictions of less innocent individuals, have led the public to believe, would really be the infallible consequence ; nevertheless, it is far from being intended, by any observations now promulgated, either to make light of the sufferings of humanity, or to underrate those efforts so praiseworthily made by the benevolent, to prevent, as likewise to alleviate, the afflictions of their fellow-creatures, when actually labouring under a disease threatening their destruction.

Whilst delivering the sentiments contained in the following pages, it is by no means purposed to paralyze the laudable exertions, lately so meritoriously made by the charitable and humane in the upper and middle classes of society, in order to diminish the miseries, and wants of the poor. It is far from being intended, even in the slightest manner, to retard or neutralize such kind-hearted exertions. For conduct so beneficial as this, not only proves to the lower ranks, their rich and more elevated neighbours attend to their distresses, and situation, and are most anxious to relieve them ; but such proceedings have also, a most material influence, in pre-

venting the spreading of this, and many other epidemics to which the poor are, at all times and seasons so liable. If, therefore, what shall be advanced in this volume, could by possibility have the most remote influence, in checking the exertions of benevolent individuals, of Boards of Health, or of Vestries, not a word would be said regarding the contagion of cholera; nor would any arguments be brought forward, that might obstruct any beneficial measures now being taken, even if they should be based upon that disputed doctrine, but whose influence would tend to counteract the dissemination of the disease. But as such a baneful effect cannot result from the present observations, no fear is therefore felt, this will be the consequence. If however, on the other hand, any remarks now or about to be stated, shall in the most remote degree, serve to allay any remaining alarm; or if what has been said by others, of similar sentiments, shall impart confidence to the relations and attendants of the sick or afflicted, by convincing them, that there is really no danger, whilst they aid even their expiring friends in every possible manner, when suffering the agonies of dissolution; nay farther, if the dread and dismay, the approach of this pestilence had produced, can be shown by experience and argument to be unfounded, or much overrated, then the exertions of those gentlemen, medical as also others, who attempted to stem the torrent of alarm, and diffuse confidence, will be amply rewarded by approbation.

On a disease like the present epidemick, surrounded by so many difficulties, where yet further information and experience, than is already possessed, must be acquired, to clear up some points still in dispute, and which at the same time, has puzzled the medical profession in almost every country, where the complaint has prevailed; it would be presumptuous indeed, to consider

the opinions now entertained, as so well founded and immutable, that by facts or arguments they could not be shaken or disproved. Such an assumption is most foreign to expressed sentiments. It is only because anxiety is felt to understand, and if possible to explain, all the phenomena so well marked in this complaint, and in which so much interest is universally taken, that these imperfect observations were thrown together : for here as in all questions of importance, the collision of opinions generally elicits truth, and in the counsel of many we get wisdom.

Should subsequent knowledge, however, lead to the belief, the views here expressed, and the explanations of phenomena now entertained, are subverted by facts, which cannot be withstood, or interpreted in any other manner ; then, it will be no disparagement for an individual, in a question relating to medicine, a science of experience and observation, to reconsider, or remodel a conclusion. But until conviction arrives, every one, whilst zealously supporting his own favourite theories, is assuredly bound to respect, and examine into the rationality of arguments used by opponents, and at the same time to acknowledge the force of those brought forward by others, from whom he may happen to differ. With these considerations constantly in view, the following pages have been penned, and it is trusted the motives in doing so, will neither be misrepresented, nor mistaken.

In treating the subject now commenced, many if not all the important topics therewith connected, might be most fully, and individually discussed ; but as such a proceeding would swell the present treatise, to an inconvenient length, minor points must therefore give way to those of greater moment, or they can only be partially considered, when specifically engaged, in examining

those questions, constituting the chief and peculiar features, of the disease now under consideration. To perform this in a satisfactory manner, without prolixity or confusion, it is thought much advantage will be the consequence, as well as simplicity in the arrangement be maintained, first to give a description of the symptoms and phenomena, usually exhibited by the disease; next the pathological appearances observed after death; and then the doctrine of contagion will come under review, embracing at the same time the collateral and also most important subject of quarantine, with any sanatory regulations considered beneficial.

These essential and difficult points having been discussed, in the manner they deserve, the question whether or not the cholera now prevalent in London be really a new disease, never met with before in England, either lately, or in times the most remote, will be fully, and it is hoped dispassionately investigated. These points having been all fully examined, that not less useful subject, the treatment of the disease and mode of its prevention, will be considered. Afterwards, a few general remarks may most likely be made, and it is believed without disadvantage, relative to the conduct, or rather what ought to be the proceedings of the public during an epidemic like the present; then perhaps the steps which ought to be pursued by the medical profession under the circumstances now stated, may be considered; and lastly, if space permits, it is intended to pass under review, the regulations instituted by bodies in authority, or considered useful, during the prevalence of a disease such as cholera, or one endowed as this has been, with some symptoms unusually severe and momentous. In making such an attempt as now stated, where the object is solely to arrive at truth, if imperfectly performed indulgence may be

granted ; but if the views entertained are well founded, and the facts or reasoning employed, are sufficient to produce conviction, then any labour employed will not have been altogether useless, nor the anxiety felt, whilst conducting the inquiry considered irrational or misplaced.

CHAPTER II.

SYMPTOMS OF INDIAN CHOLERA, AND ITS PROGRESS IN THE EAST.

THE appellation of Cholera is not, as some might perhaps think, from the tenor of very recent public attention, either a word of modern invention, or intended to indicate a train of symptoms constituting a new and hitherto unknown disease. The name, like the disease, is as old as even the days of Hippocrates, when, as in the works of Celsus we find the word used, and its derivation explained. According to the last of these classick authors, cholera is derived from the two Greek words, $\chiολη$, bile, and $ρεω$, to flow, or literally a bile flux. Trallian however thinks the proper derivation is from $\chiολας$ and $ρεω$, meaning intestinal flux, or indicating the matters discharged in this disease, from the alimentary canal, were excerned by the intestines, rather than by the liver. But whencesoever may be the exact derivation of the term, there cannot be any doubt as to its antiquity or meaning ; whatever may be said regarding the recent, or more ancient origin of the disease, now designated by this appellation.

In considering the subject more immediately embraced, within the scope of the present remarks, it is thought the most instructive, and convenient mode of proceeding,

will be to detail succinctly, first the symptoms, and peculiarities exhibited by the epidemic cholera, when prevalent in the eastern British possessions; afterwards, to detail its progress, as reported by authors, towards the west; then to give some account of the phenomena observed in the north of Europe; and finally, to state the progress, and narrate the symptoms the disease has usually exhibited, since its recent appearance in Great Britain. Much of the matter the first of these questions embraces, must of course be taken from the works of those authors who have written upon the epidemick, as it must be well known all knowledge I possess of the complaint as it appeared abroad, can only be derived from these authorities, not having visited those countries, at the time this epidemick was prevalent.

The following epitome describing the cholera of India, is therefore principally taken from the valuable work of Mr. Orton, so much esteemed in this country. From this author we learn, that in India, the cholera usually begins with a small and quick pulse, the countenance appears pale and anxious, then followed by giddiness, headach, and languor, and at the same time the patient complains of a sense of debility. Afterwards nausea comes on, with vomiting, followed by griping of the bowels, when stools of a natural appearance are at first passed; but soon they become greyish, whilst the urine passed is of pale colour. Subsequently to these symptoms, the pulse gets very small, weak, and is usually accelerated: the surface of the body now becomes cold, frequently assuming a bluish colour; the respiration is hurried, and the features are sunk, being sometimes, in fact, so changed in appearance, as to be scarcely, if at all, recognized by the patient's acquaintance. There is now felt extreme anxiety as likewise debility, along with spasms of

the voluntary muscles ; the vomiting also becomes more frequent ; whilst the fluid evacuated appears whitish or transparent, and sometimes as if mixed with mucus. The stools passed at this period become white and watery, containing like what came from the stomach, also some shreds of mucus. Extreme thirst, with a burning pain at the stomach, augmented by pressing the epigastrium, now succeed, there is found to be a total suppression of the secretion of urine, and scarcely any saliva is excreted ; there is, however, a copious cold sweat covering if not the body, at least the limbs, and the voice of the patient now gets hoarse or feeble. As the disease advances in its progress, or if unchecked by medical treatment, the pulse becomes at last, so extremely small and fluttering, as to be sometimes quite imperceptible ; the coldness and lividity of the skin now increases ; the breathing is most laborious, and occasionally even stertorous ; these symptoms are then followed by stupor and anxiety, and the face assumes the expression usually called hippocratic. At this stage of the disease, the vomiting, purging, and spasms cease almost entirely ; there is a most intense thirst tormenting the patient, insatiable by any liquid drank, and no urine is secreted ; the mouth is dry, but the skin feels moist, and appears shrunk or shrivelled. The eyes now become glassy ; the voice is quite inaudible ; then deafness and stupor follow ; and, lastly, the unfortunate sufferer dies exhausted.

The symptoms now detailed, it should be remembered, are not always observed, even during the same epidemick ; but these being the prominent phenomena of the complaint, they are generally more or less present. In mild, common, or in malignant cases, of course, the degree of their intensity will vary accordingly ; but whether the attack assumes a mild, more aggravated,

or a most malignant form of the disease, its symptoms will agree more or less with the above condensed but not exaggerated description.

Bloody stools were, it should be added, of not uncommon occurrence, in a few cases of cholera morbus seen in India; and the Medical Board of Bengal, in an especial manner, mentions this symptom as being observed, although, however, only as an occasional appearance; besides, in confirmation of this peculiar feature in the disease, there are some cases reported from Madras, wherein blood almost wholly composed the evacuations. In addition to these varieties in the phenomena attending the epidemick, round lumbrici, both by vomiting and stool, were frequently seen in India; indeed, these kind of worms were so common, as at one time to lead to the suspicion, they were connected with the disease, and materially tended to its production, particularly as relief was often experienced on their being evacuated. Rigors have occasionally likewise been observed; and on the first attack of the complaint, it was observed in many instances, the food thrown off from the stomach was perfectly unchanged, although several hours may have elapsed since the time it was eaten, having remained in that viscus quite undigested, and unchanged.

Mr. Orton, in his valuable work already quoted, has given a digest, or outline of the symptoms commonly observed in this disease, whether occurring in a mild form or the most aggravated: he has properly placed these in two divisions, one class indicating the mild, the other a severe form of cholera, both being correctly designated under the appellations of Cholera Mitior and Cholera Gravior. This division is exceedingly judicious; and in concluding this part of the subject, no corollary can be more advantageous than transcribing the docu-

ment now mentioned, as it places in one simple point of view, all the symptoms peculiar to the eastern epidemic.

CHOLERA MITIOR.**GENERAL CHARACTER.**

Increased action.

PARTICULAR CHARACTER.

Excessive secretion of bile throughout.

Violent spasms of the voluntary muscles.

Moderate debility of the animal functions.

Full and strong pulse.

Hot skin and flushed face.

Violent and frequent retching, spasms in the intestines, and purging.

CHOLERA GRAVIOR.**GENERAL CHARACTER.**

Diminished action.

PARTICULAR CHARACTER.

Entire suppression of bile, until the favourable crisis.

Slight spasms, or none.

Extreme debility of the animal functions.

Extremely weak pulse.

Cold skin and sunken face.

No spasms in the intestines; not more than one or two evacuations by vomit or stool.

Having thus briefly detailed the symptoms characterizing the cholera, as observed by medical practitioners in the East Indies, it now becomes necessary, to describe those circumstances marking the progress the disease is reported to have held towards Europe, where, long before even its arrival, the greatest alarm was produced, bordering almost on consternation.

Perhaps there is no point connected with the complaint under consideration, said to be so clearly, and incontrovertibly established, as the one regarding its first appearance in the east, where according to the opinion of many, the cholera had never been known, till it broke out at Jessore in 1817. To doubt this opinion, is considered a heresy the most unpardonable, or to say there ever had

been a case of real spasmodic cholera observed in the east, prior to the 17th of August of that year, will be put down as a proof of the greatest prejudice. Nevertheless, all authors do not agree in this assertion, and Dr. Girdlestone, who wrote on the spasmodic affections of India in 1782, distinctly alludes to a similar disease. So does Mr. Curtis, in a work published by him about the same period; but both these essays are considered by other writers to refer merely to a more than usual prevalence of a disease during the year 1781 and 1782, which was owing to the seasons, state of the climate, and circumstances connected with the individuals it attacked.

But allowing this to be the case, no doubt surely can remain in the mind of an impartial inquirer, after reading the following account of a disease, prevailing at Arcot and Vellore in 1787, given on the authority of Mr. Duffin, resident surgeon at the latter station, and contained in the Indian Reports. This author says, "The patients are generally seized with a nausea, frequent heats and chills, and numbness, and uncommon sensation, as they express it, of different parts of the body. Then came on cold sweats, severe gripings, and mostly a purging of bilious colluvies, appearing often in a ferment like yeast, and sometimes not unlike it in colour. Retchings to vomit, often bilious, and at other times scarcely any thing is brought up but what is drank. There is intense oppression of the præcordia, and difficulty of breathing." Mr. Davies, from Madras, also saw the cases referred to, and reports there were observed three different diseases in the epidemic hospital; *viz.* "those labouring under cholera morbus, an inflammatory fever with universal cramps, and a spasmodic affection of the nervous system, the last always proving fatal."

Sonnerat and Bartolomeo likewise mention this disease in their accounts of India; the former observes it is marked by “a watery flux, vomiting, and extreme faintness, a burning thirst, an oppression of the breast, and a *suppression of urine*, and the patient frequently expired in twenty-four hours.” Bartolomeo reports the complaint was called *mordezym* by the people of the country, subsequently transformed into the well-known phrase *mort de chien*, saying they die, as it were, the death of a dog.

But leaving these points to be settled by Indian practitioners, since in Europe, any question regarding the ancient or modern appearance of the disease in the east cannot much interest the inhabitants of England, excepting perhaps as a matter of simple curiosity; it must be more important for them to know the course the disease is reported to have pursued in its journey thither, which is found to be nearly as follows, since the narrative is collected from the best authority.

According to authentic reports, a very malignant form of this disease suddenly appeared on the 28th of August, 1817, at Jessore, a town situated about one hundred miles north-east of Calcutta. From twenty to thirty died daily, and although the inhabitants became at length terrified, and deserted their habitations, 6,000 perished in the short space of a few weeks. It rapidly spread through the neighbouring country to Dacca, Patna, Dinapore, and Nuddea. In September it reached Calcutta, and since that time the metropolis of British India has been regularly invaded by it, during every succeeding season. In November, when the English army were preparing to go out to battle with the Hindostan Chiefs, it attacked its central division, and in ten days destroyed 764 officers, and 8,500 men. From

Calcutta it travelled westward to Bahar, and from Bahar northward to Benares, Lucknow, Cawnpore, and Delhi. It then directed its course southward to Agra, Hussingabad, and Nagpore. From Nagpore it again struck off in a south-west direction to Aurungabad, then to Panwell and Poonah; and by the second week in September, 1818, it took up its residence in Bombay, on the western coast of the Indian Peninsula.

Notwithstanding this rapid journey from Jessore to Bombay, it was equally active in its movements along the Coromandel coast, in reaching Madras; for, while it was shooting northward from Jessore to Dacca, it was at the same time penetrating southward to Chittagong. By the 20th of March it had entered Ganjam, it reached Aska in April; in May it was at Vizianagram, at Mazulipatam in July, and on the 8th of October, 1818, it had entered Madras, about a month after its appearance in Bombay. Now, when it is considered, that during the winter months, the cold had rendered it inactive, it will appear this pestilence traversed the whole Peninsula of India, or about 66,000 square leagues, in less than a year!

As it is not intended to enumerate and describe the various irruptions which cholera has made from that period to the present time in British India: suffice it to say, that with the exception of the winter seasons, it has unceasingly preyed upon our eastern settlements. Towards the close of each November, it only hybernates to rest, that on the approach of spring it may burst forth afresh, to repeat its ravages; and although it has thus swept, with the besom of destruction, its towns and its villages, upwards of fourteen times, it still finds fresh victims for the slaughter; and it continues to betray a poison as malignant as ever, and as unma-

nageable. Even the inferior animals are said not to be exempt from its influence. On its first appearance, a great number of cattle died in a most extraordinary manner, it is said, in the grand army of India. During the month of October 1827, many of the dogs in the streets of Calcutta were attacked with choleric symptoms, and expired. Mr. Chalmers observes, in the towns near the hills, where the epidemick was so fatal, that a disease occurred among the cattle, which kept pace with, and often exceeded in mortality, that affecting the human species. According to Dr. Rauken, goats and camels died of it in Rajputana; and it would appear that at Vercelli, in Italy, the same phenomena sometimes occur, when the ordinary cholera is more than usually severe: whilst Mr. Searle reports he examined some ducks, which he was convinced died of cholera, because he found in their stomach and bowels the same diseased appearances which are discovered in the human subject after death.

A few months after the first appearance of cholera at Jessore, and while it was travelling through the northern provinces, it began to ravage along the eastern shore of the Gulph of Bengal; and in 1819 it reached the kingdom of Arracan. From Arracan it extended itself into Siam, and after destroying, according to reports, 40,000 in Baku, the capital of that kingdom, it passed into the peninsula of Malacca. In October, it entered the islands of Sumatra and Penang; Java and Borneo afterwards suffered; Canton was attacked in 1820, and at Pekin its mortality was so frightful, that the government were obliged to have the dead interred at the public expense. From China the disease passed to the Philippine and Spice Islands. Whereby, in little more than two years, it thus traversed a space in East-

ern Asia, which from north to south measures not less than 1,300, and from west to east 1,000 leagues, in diameter.

Two months after the cholera entered Madras, it travelled along the eastern shore of the Peninsula, through Arcot to Palmacottah; from whence it traversed the strait, and entering the province of Jaffna, which is opposite to Palmacottah, it penetrated into the capital of Ceylon, situated in the very centre of the island. About the same period the Mauritius was visited by the disease; and on the 14th of Janury, 1820, it appeared at the town of St. Denis, in the Isle of Bourbon, which is only forty leagues south-west of the Mauritius. In July, 1821, it betrayed itself at Muscat, on the southern extremity of the Arabian Peninsula. The neighbouring islands of Ormus and Kishme, in the mouth of the Persian Gulph, were shortly afterwards infected; by August, it had ascended along the eastern coast of Arabia, as far as the island of Bahreim; and not long after, it entered Bassorah, on the northern extremity of the Persian Gulph. Opposite the little island of Ormus is the port of Bender-Abassi, in Persia, constituting the principal seaport town in which the Persians conduct commerce with British India. The cholera broke out here with so much violence, that the bazaars were obliged to be closed, and many of the dead left unburied. Those who escaped its first onset abandoned their houses, and sought for safety in flight. Shiraz, which is a town about 100 leagues north-west of Bender-Abassi, manifested symptoms of the pestilence in September, and during the first nine days, 4,500 persons perished. Yezd afterwards suffered, and by the time the disease had reached Ispahan, the cold season had so far advanced, that its severity was much

lessened, and it soon wholly disappeared. On the recommencement of spring, however, it again developed itself afresh, and spreading from Ispahan, where it had wintered, round the contiguous Persian provinces, the disease visited in succession Kermanshah, Cashan, Khom, Casbin, and Tauris, following it is said invariably, whether in Asia or Europe, the great commercial lines of national intercourse; for unless there are inhabitants the epidemick cannot extend. At Tauris, 4,800 perished in the short space of twenty-five days, when it left the town, and travelled on through Khas, Erivan, and Kars, to Erzeroum on the southern shore of the Black Sea. The Prince Royal of Persia had driven the Turkish army into this town in the month of July; but immediately after his victory, cholera broke out with such devastating fury among the Persian forces, that from thirty to forty died daily; and the soldiers, in consequence of these appalling circumstances, became so dispirited that they precipitately retreated, and left their general the prince, with his ministers, to sign an armistice at Kehoe with the enemy.

Before the disease quitted Bassorah in 1821, from 15,000 to 18,000 of its inhabitants were destroyed, and so dreadful was the havoc made by it in the surrounding country, that Dr. Meunier reports the third of the whole population fell before its relentless force. At Bagdad the epidemick was so prevalent, that a Persian army, which was then marching hostilely against the town, were compelled to withdraw, but the pestilence pursued them, and among other losses they sustained, was that of their commander. In the spring of 1822, the disease appeared between the rivers Tigris and Euphrates; in July it attacked Mosul, a place about sixty leagues north of Bagdad, and then travelling more

westward, it passed through Merdine, Diarbekir, Orfa, Birri, and Autab, on its way to Aleppo in Syria, which it reached in the month of November.

During the following winter, as usual, it lay almost dormant, scarcely appearing anywhere ; but in the spring of 1823, the disease again revived, or was resuscitated, and it now visited Latakia, Antioch, Tortosa, Tripoli, and other towns on the southern borders of the Mediterranean. By the end of July it had advanced in the direction of Sarkin, Arrous, Khankaramont, and the gulph of Alexandretta ; and passing over the high mountains of Baylam, it entered the towns of Adena and Tarsous, and in the subsequent year, 1824, it appeared at Tiberias in Judea.

Thus have Arabia, Persia, Mesopotamia, and Syria been overrun by this pestilence or cholera, according to the reports, in little more than a period of two years ; traversing every species of country, from the trackless and barren deserts of Irac-Arabia to the fertile and humid banks of the Euphrates, and depopulating almost every village and town in its path, with a pertinacious obstinacy which neither human foresight nor skill could seldom anticipate or overcome. From this narrative, it will be seen the disease, during its journey westward and to the north, took as it were two different routes through these countries, which it seemed to prosecute with equal and unceasing energy. By the one route it penetrated Arabia, attacked Bassorah, ascended the Euphrates, ravaged Mesopotamia, and finally appeared in Syria and Palestine, where the disease committed frightful havoc among the inhabitants of the towns situated near the Mediterranean. By the other course, which the epidemick pursued, it travelled through the very centre of the Kingdom of Persia, until in 1823

it actually reached the shores of the Caspian Sea, and not far distant from the confines of the Russian empire.

The above general outline of the course reported to have been pursued by the epidemic cholera in its progress towards Europe, is principally taken from a small tract published by Sir Gilbert Blane, a name vouching at once for the authenticity of the narration; and as much of the argument regarding the contagious character of the disease, hinges upon the undeviating progress it is considered to have maintained, this will perhaps serve as an apology, for the length and minuteness of the narration.

CHAPTER III.

ADVANCE OF THE DISEASE THROUGH EUROPE. ITS APPEARANCE AT ST. PETERSBURGH, AND THE SYMPTOMS THERE EXHIBITED.

PERSEVERINGLY to continue arguing upon premises repeatedly shown to be doubtful, if not wholly mistaken, is one way certainly of arriving at conclusions; but such a mode of reasoning can neither clear up a mystery, nor establish an hypothesis. Proselytes may perhaps be thus obtained; to support and promulgate an opinion; but a dispassionate inquirer, or one anxious only to obtain information, will not so easily rest satisfied; he will search into, and even cross-examine the evidence, brought forward in confirmation of opinions, although perhaps readily acquiesced in by others, are yet not sufficiently proved, to bring to his own mind conviction. To arrive at truth, on even any subject, is always a difficult course; and to doubt, in-

stead of hastily to assume a theory as established, when the proofs are but slight, is always the surest road, towards the acquisition of knowledge. And if this be true in the exact sciences, it is much more applicable to that of medicine; therefore, although by doubting the occurrence of circumstances, unless upon the very best evidence, a person may incur the risk of being considered obstinate; this obloquy is even preferable to the easy habit he may acquire, of receiving as satisfactorily proved, what is yet but imperfectly established.

If this maxim be correct, and often apparent in occurrences taking place within our own immediate sphere of observation, it will more likely be the case, when transactions in distant regions, or former ages, are the subject of discussion. The experience of every person fully demonstrates, the extreme difficulty there is of ever getting exact information; and without wishing to disbelieve the proofs related of occurrences in other countries, it will not, surely be considered either sceptical or discourteous, if they first be exposed to investigation.

Perhaps the observations now made, were never more applicable to any subject, than they evidently seem to the progress related, and accompanying events marking, the destructive course cholera pursued, towards the western parts of the habitable world. The journey the disease is reported to have made, the different stages it performed, the resting-places selected, and the other circumstances attending its march, are altogether so singular, that a person may well be excused, if, on first hearing the statement, he doubt, if not disbelieve, its entire accuracy.

But it would now be almost out of place, to enter upon

this or similar discussions, as there will be ample opportunity afforded, at a future time, for such investigations. At present it will suffice, in imitation of the narrative given of the course, the disease is reported to have pursued in India, to delineate a general outline of the course held by the epidemick towards Russia; and then, to describe the symptoms exhibited, when most prevalent in the metropolis of that country. Repeating however again, what has just been expressed, regarding the difficulty generally experienced, in obtaining any exact information, relative to transactions in all distant regions, especially in those having very little freedom of intercourse; it must not therefore for a single moment be supposed, authentic facts are doubted, or the relations of events bearing the mark of veracity, are in any way disbelieved, even should the reasoning employed in explaining their application to events, apparently be disregarded.

In the former chapter, a full and rather minute account is given, of the reported commencement of this disease, for the first time in the east, at Jessore, in the month of August, 1817. After committing extensive ravages in many parts of India, depopulating villages, interfering with the march of armies, and otherwise, almost totally interrupting the ordinary intercourse and affairs of society, this pestilential malady reached the shores of the Caspian Sea in 1823, at a place not far from the limits of the Russian territories.

Early in September, 1823, the cholera appeared in Astracan, a large and populous town seated on the northern shore of the Caspian, at the mouth of the Volga. The Russian fleet were first infected, but two hundred and sixteen persons only were attacked, and of these, one hundred and forty-four died. As soon as it

became known to the Russian Government, that Astracan was invaded by the disease, they dispatched a medical commission, composed of six physicians, to investigate its character. A physician was also sent into Persia with the same view ; a board of health was established at Petersburg, and every exertion was made to prevent its extension farther north. How far such preventive measures were connected with the result, it may be difficult to decide ; but the disease extended no farther in that direction this year than Astracan ; and it did not again appear in Russia, until towards the close of 1828, when unexpectedly the town of Orenburg was affected, as some suppose, through the caravans which came from Upper Asia ; whilst others assert it was through the Kirghis-Cossacks, who are near neighbours to Orenburg, and are said to have been infected by the disease. As the cold season commenced shortly after its appearance, the mortality thus occasioned was not great, until the spring of 1829, when the disease raged with great severity, both in the town and neighbourhood, and it then entered the forts of Isetzk and Rassyphaya. On the 31st of July, 1830, it again appeared in Astracan ; by the 10th of August, 1,229 were ill, of whom 433 died ; and by the 27th, no fewer than 4,043 within the town, and 21,268 throughout the province of which that city is the capital, are said to have perished. After committing this unprecedented destruction, the pestilence pursued a north-west course, along the banks of the Volga, making tributary to its power the populous towns of Saratoff, Penza, Samara, and Kazan. Kazan it reached on the 5th of September, and on the 26th of the same month, its symptoms were first detected in Moscow. This city was immediately divided into forty-seven compartments, which were separated from each

other by a *cordon sanitaire*; ten temporary hospitals were erected, and Count Zakrewski, the minister of the interior, was appointed by the Emperor, to superintend these protective arrangements. The Emperor himself visited this capital when the disease was at its height, and on leaving to go to Twer, by submitting to a quarantine of eight days, he gave an example of obedience to the sanatory laws then established. During the first ten days of October, 747 died; from the 10th to the 20th, 958 perished; and from the 20th to the 31st, 1,284 sunk under the disease. At first the mortality was as great as nine-tenths; it afterwards diminished to seven-eighths, five-sixths, three-fourths, one-half, and ultimately to one-third. During even the winter months, which had been hitherto a complete specific against its progress, when all the rivers were covered with ice, the disease carried on its work of death; but the number who were infected gradually decreased, and the mortality proportionally diminished.

Having now travelled so far north, it was almost universally expected the cholera would soon reach St. Petersburg, and from thence would have extended to the shores of the Baltic; but the capital at this time escaped, and the disease, taking an almost opposite direction, accompanied the Russians into Poland. During the month of July, in 1830, a body of troops were ordered out of the province of Koursk, in the country of the Cossacks, which was then infected, to march against the Poles. These troops, in their passage through Podolia and Volhynia, had with them the disease, along their entire line of march. The towns of Astrog, Zaslaf, and Luck, were now infected; and a few leagues from this latter place, the disease passed the Bug, and entered Poland. Lublin was attacked

towards the end of March, 1831 ; by the 1st of April, the hospitals of Siedlec were filled with Russians, labouring under the malady ; ten days afterwards, it was discovered among the wounded at Praga, which is separated from Warsaw only by the Vistula ; and on the 14th it appeared in the capital of Poland. According to the Central Committee of Health, from 100 to 150 died during the first week, out of every 1,000 sick ; and, according to the Berlin Gazette, during thirteen days, ending on the 5th of May, there had been between the town and the camp 2,580 sick, of whom 1,110 died, and 1,278 still remained under treatment. On the 8th of May, Ostralenka, Lomza, Szczuczyn, Drohiczyn, Pultuzk, Makow, Nesielskal, and Plousk, were ill ; on the 24th it appeared at Polangen ; on the 25th at Riga, and by the 28th it had reached Dantzic in Prussia, Brody and Lemberg in Austria. On the 26th of June the disease entered Petersburgh ; early in August it invaded Hungary ; and by the beginning of September, it had entered Germany ; and after travelling rapidly towards Vienna, it appeared in that luxurious capital. Subsequently, the disease reached Berlin ; afterwards, Hamburgh became affected ; and towards the end of October last year, the cholera was officially reported to have arrived on these shores, some cases having occurred on or about the 24th of that month, in the town of Sunderland.

The alarm so universally felt in England, on learning the cholera had really arrived at St. Petersburgh, naturally induced the Government of Great Britain to take steps for the purpose of obtaining as much authentic information as possible, regarding the nature and mode of propagation of the malady, lately so much and intensely occupying public attention. Accordingly, two

medical commissioners were immediately sent to that metropolis, in order that they might study the disease in all its varieties, ascertain what steps ought to be taken, with a view to prevent its dissemination; and, lastly, to report to the Government at home any kind of intelligence, which might be useful or important. The commissioners selected were, Sir William Russell, Bart. and Sir David Barry, both physicians well known, and of high reputation. The first had served long in a public capacity, and had seen the epidemick often prevailing in India; and the other, Sir David Barry, had for many years been a medical officer, and seen much service in the army, and had besides been employed by Government to investigate the malignant fever, a few years ago prevalent at Gibraltar.

On their arrival in the Russian capital, every facility was afforded the commissioners to visit cases, so as to see and study the disease with every advantage, which enabled them to transmit many valuable documents, on the subject to the authorities at home. And, as it must be allowed, a better, or more able and accurate account of the symptoms and phenomena exhibited by the epidemick, could scarcely be procured, than the letter transmitted by these gentlemen to the Home Secretary of State, in July last. I willingly avail myself of the advantage of transferring it to these pages, as it serves in every respect the object more immediately in view, besides carrying in its front, the stamp of accuracy and undeniable authenticity.

The dispatch referred to, is dated the 7th July 1831, and is as follows :—

“ Although there can be no doubt, that the disease, now prevailing here, is strictly identical, in all essential

points, with the epidemic cholera of India, and although, there are many descriptions extant, of that malady, much more ably and accurately drawn up, than any, which we can pretend to give; yet, we are induced to believe, that a short account of the symptoms, which we ourselves have actually witnessed, and noted at the bed-side, in some hundreds of cases, since our arrival here, may be useful—First, because we are not aware, that any description by an eyewitness of European cholera, has yet been addressed to the British Government; secondly, because the disease, as it has shown itself in this capital, when closely compared with the Indian cholera, appears to have undergone some modifications; thirdly, because, having now studied the disease, in all its stages, our description, however imperfect, will at least, assist towards establishing a standard of comparison, with other local epidemics of cholera in Europe; and may, perhaps, enable those, who have not seen this disease, to recognize it with more certainty, than they would otherwise be able to do.

“The cholera morbus of the north of Europe, to which the Russian peasants have given the name of, *Chornaia colezn*, or black illness, like most other diseases, is accompanied by a set of symptoms, which may be termed preliminary; by another set, which strongly mark the disease, in its first, cold, or collapse stage; and by a third set, which characterize the second stage, that of reaction, heat, and fever.

“*Preliminary Symptoms.*—We have but few opportunities of witnessing the presence of all these symptoms, some of which precede the complete seizure, by so short an interval, that, the utmost diligence is scarcely sufficient, to bring the patient and the phy-

sician together, after their occurrence, before the disease is fully formed. Diarrhœa, at first feculent, with slight cramps in the legs, nausea, pain, or heat about the pit of the stomach, malaise, give the longest warning. Indeed, purging, or ordinary diarrhœa, has been frequently known to continue, for one, two, or more days, unaccompanied by any other remarkable symptom, until the patient is suddenly struck blue, and nearly lifeless. Often the symptoms just mentioned, are arrested by timely judicious treatment, and the disease completely averted. When violent vertigo, sick stomach, nervous agitation, intermittent, slow, or small pulse, cramps, beginning at the tips of the fingers and toes, and rapidly approaching the trunk, give the first warning; then, there is scarcely an interval. Vomiting, or purging, or both these evacuations, of a liquid like rice water, or whey, or barley water, come on; the features become sharp, and contracted; the eye sinks, the look is expressive of terror, wildness, and, as it were, a consciousness on the part of the sufferer, that the hand of death is upon him. The lips, the face, the neck, the hands, the feet, and soon the thighs, arms and whole surface, assume a leaden blue, purple, black, or deep brown tint; according to the complexion of the individual, varying in shade, with the intensity of the attack. The fingers and toes are reduced, at least a third in thickness; the skin and soft parts covering them are wrinkled, shrivelled, and folded; the nails put on a bluish pearl white; the larger superficial veins are marked, by flat lines of a deeper black; the pulse is either small as a thread, and scarcely vibrating, or else totally extinct. The skin is deadly cold, and often damp; the tongue *always moist*, often white and loaded, but flabby and chilled, like a bit of dead flesh.

The voice is nearly gone ; the respiration quick, irregular, and imperfectly performed. Inspiration appears to be effected by an immense effort of the chest, whilst the *alæ nasi*, (in the most hopeless cases, and towards their close) instead of expanding, collapse, and stop the ingress of the air. Expiration is quick, and convulsive. The patient asks only for water, speaks in a plaintive whisper, (the ‘*vox cholERICA*’) and only by a word at a time, from not being able to retain air enough in his lungs, for a sentence. He tosses incessantly from side to side, and complains of intolerable weight and anguish, around his heart. He struggles for breath, and often lays his hand on his stomach and chest, to point out the seat of his agony. The integuments of the belly are sometimes raised into high irregular folds, whilst the belly itself, is violently drawn in, the diaphragm upwards and inwards, towards the chest ; sometimes, there are tetanic spasms of the legs, thighs, and loins ; but we have not seen general tetanus, nor even trismus. There is occasionally a low, suffering whine. The secretion of urine is always totally suspended, nor have we observed tears shed, under these circumstances. Vomiting and purging, which are far from being the most important, or dangerous symptoms, and which, in a very great number of cases of the present epidemick, have not been profuse, generally cease, or are arrested by medicine, early in the attack. Frictions remove the blue colour for a time, from the part rubbed ; but in other parts, particularly the face, the livor becomes every moment more intense, and more general. The lips and cheeks sometimes puff out, and flap in expiration, with a white froth between them, as in apoplexy. If blood be obtained in this state, it is black, flows by drops, is thick, and feels to

the finger, colder than natural. Towards the close of this scene, the respiration becomes very slow, there is a quivering among the tendons of the wrist, the mind remains entire. The patient is first unable to swallow, then becomes insensible ; there never is however, any rattle in the throat, and he dies quietly, after a long, convulsive sob or two.

“ The above is a faint description of the very worst kind of case, dying, in the cold stage, in from six to twenty-four hours, after the setting in of the bad symptoms. We have seen many such cases, just carried to the hospital, from their houses, or their barracks. In by far the greater number, vomiting had ceased, in some, however, it was still going on, and invariably of the true serous kind. Many confessed that they had concealed a diarrhœa for a day or two ; others have been suddenly seized, generally very early in the morning. From the aggravated state, which we have just described, but very few indeed recover ; particularly, if that state has been present, even *for four hours*, before the treatment has commenced. A thread of pulse, however small, is almost always felt at the wrist, where recovery from the blue, or cold stage, is to be expected. Singular enough to say, hiccough coming on in the intermediate moments, between the threatening of death, and the beginning of reaction, is a favourable sign, and generally announces the return of the circulation.

“ In less severe cases, the pulse is not wholly extinguished, though much reduced in volume ; the respiration is less embarrassed ; the oppression and anguish at the chest are not so overwhelming, although vomiting and purging and the cramps, may have been more intense. The coldness, and change of colour, of the surface, the peculiar alteration of the voice, a

greater, or less degree of coldness of the tongue, the character of the liquids evacuated, have been invariably well marked, in all the degrees of violence of attack, which we have hitherto witnessed, in this epidemic. In no case, or stage of this disease, have we observed shivering; nor have we heard, after inquiry, of more than one case, in which this febrile symptom took place.

“ *Fever or Hot Stage.*—After the blue cold period, has lasted from twelve, to twenty-four, seldom to forty-eight hours, or upwards; the pulse, and external heat begin gradually to return, head-ache is complained of, with noise in the ears, the tongue becomes more loaded, redder at the tip and edges, and also drier. High coloured urine is passed with pain, and in small quantities; the pupil is often dilated, soreness is felt on pressure, over the liver, stomach, and belly; bleeding by the lancet, or leeches, is required. Ice to the head gives great relief. In short, the patient is now labouring under a continued fever, not to be distinguished from ordinary fever. A profuse critical perspiration may come on, from the second or third day, and leave the sufferer convalescent: but, much more frequently, the quickness of pulse, and heat of skin continue, the tongue becomes brown and parched, the eyes are suffused and drowsy, there is a dull flush, with stupor and heaviness about the countenance, much resembling typhus; dark sordes collect about the lips, and teeth; sometimes the patient is pale, squalid, and low, with the pulse and heat below natural, but with typhus stupor; delirium supervenes, and death takes place, from the fourth to the eighth day, or even later, in the very individual, too, whom the most assiduous attention had barely saved in the first, or cold stage.

To give a notion, of the importance, and danger of cholera fever, a most intelligent physician, Dr. Reimer, of the merchant hospital, informs us, that, of twenty cases treated under his own eye, who fell victims to the disease, seven died in the cold stage, and thirteen in the consecutive fever.

“ This singular malady, is only cognizable *with certainty*, during its blue, or cold period. After reaction has been established, it cannot be distinguished from an ordinary continued fever, except by the shortness and fatality of its course. The greenish or dark, and highly bilious discharges, produced in the hot stage, by calomel, are not sufficiently diagnostic, and it is curious, that the persons employed about these typhoid cases, when they are attacked, are never seized with ordinary fever, but with a genuine cold blue cholera; nothing therefore is more certain, than that persons may come to the coast of England, apparently labouring under common feverish indisposition, who really, and truly, are suffering, under cholera, in the second stage.

“ The points of difference between the present epidemic, and the cholera of India, when the two diseases are closely compared, appear to us, to be the following :—

“ First. The evacuations, both upwards and downwards, seem to have been much more profuse and ungovernable, in the Indian, than in the present cholera, though the characters of the evacuations are precisely the same.

“ Secondly. Restoration to health, from the cold stage, without passing through consecutive fever, of any kind, was by far more frequent in India, than here, nor did the consecutive fever there assume, a typhoid type.

“ Thirdly. The proportion of deaths in the cold stage, compared with those in the hot, was far greater in India, according to Dr. (now Sir Wm.) Russell’s experience, than here.

“ Fourthly. The number of medical men, and hospital attendants, attacked with cholera during the present epidemic, in proportion to the whole employed, and to the other classes of society, has been beyond all comparison, greater here, than in India, under similar circumstances ; twenty-five medical men have been already seized, and nine have died, out of two hundred and sixty-four. Four others have died at Cronstadt, out of a very small number, residing in that fortress, at the time the disease broke out there. Six attendants have been taken ill at a small temporary hospital behind the Aboucoff, since we wrote last. It is certain, however, that in some cholera hospitals, favourably circumstanced as to size, ventilation, and space, very few of the attendants have suffered.

“ Of these facts, we are likely to receive accurate statements, in answer to the written questions, which we have submitted, to the medical authorities through the government here.

“ Convalescence from cholera has been rapid, and perfect here, as is proved by the following fact. The minister of the interior had given orders, that all convalescents, civil as well as military, at the general hospital, should be detained fourteen days. We inspected about two hundred of these détenus, some days back, with Sir James Wylie, and found them in excellent health, without a single morbid sequela amongst them.

“ Relapses are rare, in this epidemic, nor have they been often attended with fatal results ; hospital servants seem to have been most liable to them. One physi-

cian had three attacks, the second severe, in which he states, that he derived great benefit from the magisterium bismuthi."

The disease occurring in the north of Europe, is so admirably delineated in the above minute, and important document, that nothing remains to be added, either to direct the judgment of the practitioner, or to inform the mind of the ordinary inquirer. It may however be remarked, lest the sensitive, but creditable feelings of the reader, by being alarmed, after the perusal of so painful a narrative of human suffering, should induce him to conclude the mortality from this disease must hence have been appalling, that such was not the inviolable consequence in those countries, where it had appeared most extensively.

According to the accounts of many historians, the mortality in some countries, certainly seems to have been great; but there is always, when speaking of epidemics, so much embellishment, if not exaggeration, and what then takes place in distant regions, so frequently assumes the marvellous, it is not surprising, if the reported extent be sometimes doubted. For instance, it is reported, a tenth of the whole population of Hindostan was attacked with this disease, whereof a sixth perished. In China and in Persia, the mortality is said to have been equally extensive; whilst some accounts say the disease carried off, nearly a third of the population of Mesopotamia. Again in the marshy and unwholesome provinces of Bagdad and Bussorah, situated the former on the Tigris, the other on the Schatt el Arab, near the confluence of the great rivers, Tigris and Euphrates, many of the inhabitants died during the first month of its appearance, and it was likewise observed, that villages or towns, in low and

humid situations were most affected by the epidemick, whilst more elevated and drier regions almost escaped.

In Syria, the mortality is said to have been less severe, in many places, such as in Tripoli, only one in every two hundred sunk under the complaint. But in Russia, the proportion of fatal cases to those attacked, was very various in different situations, thus in the distant towns of Tifflis and Astrachan, two-thirds of those affected are reported to have died. In the provinces bordering the Caucasus, 10,000 are stated to have perished out of 16,000 attacked. At Orenburgh, one-fifth only died. And again in Moscow, the mortality was at first very great, being so high as nine-tenths of the cases, but latterly, only one-third of the persons affected, were carried off by the disease. Among the Don Cossacks, the proportion was, as might be expected, from their mode of living and filthy habits, very considerable. At St. Petersburg, Berlin, and Vienna, a great many certainly died, but wherever accurate information has been obtained, it is said in contradiction of what is so generally believed, that the average number of deaths, occurring in the whole population of a country, by this and other diseases, was not materially different from other years. At Moscow, it was stated, on apparently good authority, to have been even less than ordinary. And, to show how difficult it is, sometimes to arrive at the real facts of a case, it has been reported, by individuals, having very good means of obtaining information, that in almost every town, in the north, or eastern part of Europe, where cholera had prevailed, the average of mortality for the year, had not been often augmented, and even this took place in so few instances, and to so trifling an extent, as scarcely to deserve annotation.

CHAPTER IV.

REFLECTIONS ON LONDON AND PARIS, AS REGARDS
SOME OF THE CAUSES PROPAGATING DISEASE.

PREVIOUSLY to the appearance of the epidemic cholera, lately common in England, if the medical profession, or the public, had only reflected for a moment, on the great differences exhibited in the constitutions of the natives of this, compared with those inhabiting foreign countries, where the disease had committed such devastation ; if farther, they had contemplated the superior accommodation, the warmer clothing, and particularly the kind of food consumed : besides, had they considered many other circumstances, so much the reverse of what are observed in foreign capitals, impartial observers must have seen many strong reasons for concluding, the pestilence, when it should actually break out, would most likely be far less severe in its consequences, on the population of London, than it elsewhere had exhibited.

If London had remained in the same condition, it is described to have been in ancient times, when pestilential diseases frequently committed the greatest ravages, then indeed, all might have been alarmed, but happily, circumstances are now altered, from those periods of filth and disease. At the end of the seventeenth century, the metropolis according to the historians of the time, was in a very different condition, and the inhabitants lived quite otherwise than at present. In those days, the streets were narrow and crooked, and many of them totally unpaved ; the houses were built of wood and lofty, being dark, irregular, and ill-contrived, with each story hanging over the one below,

so as almost to meet at the top ; and thereby exclude, as much as possible, all access to a purer air ; the houses, besides, were furnished with enormous signs, projecting into the streets, in such a manner as to exclude free ventilation. The common sewers were in a very neglected state, and the drains all ran above ground, whilst the supply of water was most scanty. At this period, such was the filth of London, that the authorities were obliged to publish a proclamation forbidding any person to throw into the streets “ dead dogs, cats, inwards of beasts, cleaves or beasts’ feet, cows’ horns dregs or dross of ale, and beer ; or any *noisome* thing.” It was then also found necessary “ to prohibit the feeding of any kine, goats, hogs, or poultry in the open streets ; and it was not allowed to cast into ditches, sewers, grates, or gutters, of the city, any manner of carrion, stinking flesh, rotten oranges, or onions ; rubbish, dung, &c. ;” for there were then no coverings to the common sewers. If such was the outward appearance of London in former ages, the interior of the houses, was equally incompatible with the health of its inhabitants. Many of the houses were not cleaned for years, and Erasmus, when he visited England, says, the straw covering the floors of even good mansions, was often not changed for twenty years, being a receptacle, for every kind of filth ; from whence the stench was often intolerable. The food and clothing of the people, was quite on a par with the condition of the streets and their houses ; many seldom eat animal food, they drank very little ale, and that often bad in quality, whilst the greatest cordial, even obtained with difficulty by the middle classes, was a sour kind of canary wine, or perhaps inferior brandy, and a good coal fire was almost unknown. These particulars have been related

to mark the differences then existing from the metropolis of the present day, when any pestilential disease cannot likely produce the same disastrous effects as epidemics did formerly; consequently, when foreboding similar evil results to ensue from a modern visitation, we should think of the alterations manifested, in almost every collateral circumstance naturally tending to induce a pestilence, or augment its virulence. Confirmatory of the truth of these reflections, it is an indisputable fact, as mentioned by historians during the severe epidemick of 1348, already stated, as having prevailed to a frightful extent in London, and called by some the cholera morbus, few persons died of any rank or of condition. From thence, it was inferred, that wholesome diet, sufficient clothing, and personal cleanliness, operated as powerful preventives against the inroads of this disease, much in the same manner, as has been observed, during the more modern epidemick.

The extent and ravages marking the course of the disease in the metropolis of France, may likewise illustrate the important advantages, accruing from the improvement of circumstances in the condition of London, to those described. Paris, with all its refinements, its luxury, and intelligence, is very far behind London in those comforts and necessities, tending to make a large city healthy. There are few or no common sewers, the houses are ill-ventilated, the common people are poorly fed, and both the water and the wine they usually drink, is a most unhealthy kind of beverage; their clothing is scanty, and fuel for fire is both scarce and very little employed, and besides these peculiarities, the collateral circumstances favourable to the propagation of disease, are very resemblant to those detailed of ancient

times ; further, the sparer habits of body of Frenchmen, their more susceptible nervous temperament, and the exceeding liability they possess, to be attacked by bowel complaints, must likewise be taken into consideration. And without wishing to draw any invidious distinction, between the two nations, for of Paris, and its inhabitants, I retain the most lively feelings of regard, nevertheless, an impartial observer must acknowledge, the advantages in point of constitution and mode of life, are certainly on the side of England, in so far at least, as regards the power of resisting the approaches of the prevailing disease.

In Berlin, Vienna, and many other towns on the continent, the same disadvantages, peculiar to ancient London, and modern Paris, are found more or less to exist ; and travellers speak of and condemn the gross quality of the food, the great quantities generally eat, and the bad beverages usually drank, by the lower ranks in other countries ; circumstances, it is admitted, all materially tending to the propagation of this disease. In support of these views it may be added, that in Paris for instance, the English residents have hitherto, it is said been scarcely affected, although exposed to the influence of the same local and atmospheric causes, as the other inhabitants, but these have, as already stated, an advantage in their mode of life, and native constitution.

CHAPTER V.

SYMPTOMS AND DESCRIPTION OF THE DISEASE AS
SEEN IN ENGLAND.

CONSISTENTLY with the varieties generally observed, in every other disease affecting the human body, the epidemick now prevalent, exhibits itself with various degrees of severity, or malignity. Some cases are very slight, others again show so rapid and virulent a character, that no treatment or remedial measures employed, seem to have the slightest influence, either in arresting the progress, or moderating the violence of the complaint. This great mistake has however been committed, generally by the public, and sometimes even by medical men, to classify malignant cases as being only those of true cholera, or Asiatic, as some have assumed; whilst milder attacks are passed over, or are placed in the same nosological column, with common English cholera. Any disposition, to consider the most malignant examples of an epidemick, as being the only genuine cases of a particular disease, is so evidently erroneous, that no reasoning is necessary, to place the matter on a proper footing. To conclude the very worst forms of this malady, as only exhibiting a new, or as it is called, an Asiatic character, has proved a prolific source of dispute, and has led in part, to those differences of opinion lately exhibited, and still prevalent. If this doctrine be applicable to cholera, it must be equally so to other epidemics. For example, take the worst forms of spotted typhus fever, or small-pox, showing the most malignant and confluent symptoms; such in fact, as Sydenham relates in his admirable account of this disease, when speaking

of cases wherein small black spots were observed, and which he considered the inevitable forerunners of death. To view these examples of typhus, or of small-pox as only exhibiting the genuine character of the malady, would be quite as inconsistent, as the attempt sometimes made in the discussions on cholera, to consider the case only as new or genuine, when exhibiting the worst form of pathognomonic symptoms. Most diseases, as likewise the particular diathesis of a prevailing epidemick, is as well, if not more accurately known by studying the cases having a mild and ordinary character, than by occasionally seeing the most malignant. Much in the same way, as the mind and disposition of an individual, is usually better ascertained from observing trifling circumstances and traits, than it is by observing actions of greater apparent importance. Therefore, to repeat again, what has just been remarked, to study, or to reason only from the phenomena, marking the most malignant specimens of any disease whatever, is often a very fallacious mode of proceeding, pregnant with error, and very apt to mislead us in our reasoning, conclusions, and perhaps still more so in our practice. The milder cases, besides being always the most numerous, will much better exhibit the usual characteristic features of an epidemick ; and so far from being overlooked, they ought to be principally considered ; but at the same time, the malignant should neither be passed by, nor neglected.

By those authors who have written upon the present epidemick, the disease has usually been described, as consisting of three stages, or degrees ; constituting the first or premonitory symptoms ; the second, or that of collapse ; and, thirdly, the stage of reaction. Sometimes, although rarely in this country, there are no

premonitory symptoms, and then, the second stage, or that of collapse, suddenly exhibits itself; but the occasions where the disease thus rapidly appears, are much more frequent in India, than in this climate, since it very seldom so shows itself to our observation. The premonitory symptoms usually mentioned as common, consist of diarrhœa continuing often for many days together, accompanied with a general failure of the digestive powers; not unfrequently attended with headache, pain at the epigastrium, or some part of the abdomen, and flatulency, nausea, diminished appetite, along with a foul tongue. There is likewise, sometimes increased action of the heart and arteries, producing an apparent excitement of spirits, so as even to make the individual about to be attacked, feel as if he were really in better health than ordinary. These circumstances are sometimes so remarkable, as to make both the patient and the medical attendant, at first sight to conclude the attack was instantaneous, and therefore the more extraordinary; but this opinion, is in many instances fallacious, even where the sensations just noticed are perceptible. More frequently however, the person complains of languor, feels weary, and uncomfortable, he appears to suffer from ennui and malaise; not that he considers himself actually attacked by any specific complaint, but rather, he has a general feeling of indisposition not easily defined. Such are the ordinary symptoms described, as constituting the first, or premonitory stage of the epidemick.

These precursory symptoms may continue, with more or less intensity, for some days, or even, for two and three weeks; till, from committing some imprudence in eating, or in drinking, or by exposure to cold, and the action of other external influences, subsequently

enumerated, as tending, under certain favourable collateral circumstances to induce this disease, then it is the second stage, or that of collapse, makes its appearance. So striking are the phenomena often accompanying this period of the complaint, that many observers, are at first disposed to think the cholera consists essentially in the development of this stage, and unless it appears with all these formidable features, so well marked and characteristic of the severe form, they conclude the attack to be almost a different disease. But such reasoning and conclusions are quite untenable, for there are mild, rapid, and intense forms of this complaint, as much so, as any other disease affecting the human body, usually displays.

The collapse, or second stage of the epidemic cholera is ushered in by such a formidable train of symptoms, so rapid and fatal in their consequences, that the ignorant attendants are greatly terrified on their appearance, as is so well expressed by Sydenham. The most usual, and what are considered the pathognomonic symptoms, appearing at this period of the attack, consist in watery dejections, frequent, and sometimes, ineffectual, attempts to vomit; the fluid brought up, after the ordinary contents of the stomach have been evacuated, assuming a whitish character; at this period there are cramps of the limbs and spasms, both sometimes very violent, and extending to various parts of the body; the patient now feels exceedingly exhausted, and his mind occasionally appears most despondent; to these symptoms follows pain of the stomach, the pulse is now scarcely to be felt, and sometimes it is quite imperceptible; there is constant thirst, with an insatiable desire to drink fluids, generally cold water. The surface of the body if touched, feels as cold as a piece of ice, and

the tongue, when the finger is applied seems like as much raw flesh, being along with the breath, as if entirely deprived of warmth; the urinary discharge becomes suppressed; and the whole secretions of the body being directed, as it were to the skin and intestinal canal, every other is almost wholly suspended. In very malignant forms of this disease, to the symptoms now enumerated, these are sometimes added, a blueness and wrinkled appearance of the integuments covering the extremities, similar to what may often be observed on the hands of washerwomen, after being engaged in their manual occupation, the skin appearing on the sick person of course much darker in colour; the sound of the patient's voice gets so weak as scarcely to be heard, his features are shrunk, livid, and occasionally they seem so altered in expression, that the individual can scarcely be recognized by his intimate acquaintance, and from having previously to the attack, an appearance of youth, he sometimes assumes in the face, the look of a man far advanced in age and decrepitude; however, this peculiar expression of the features only happens in cases of the greatest severity, for like the blueness of the skin, it is not always delineated or observed.

Should the strength of the patient enable him to struggle against the violence exhibited during the stage of collapse, or asphyxia as it is also called by physicians; then somewhat similar to the phenomena observed in the paroxysm of an ague, a new series of symptoms succeed; local congestions, and even inflammations of particular organs now take place, the countenance appears flushed, the vessels of the eye are injected, there is pain of the head and sometimes even delirium; the impressions of light and noise become

disagreeable ; on examining the tongue it is furred, the pulse instead of being weak, as before, gets accelerated, the skin feels warm, the patient complains of thirst, and has frequent inclination to vomit ; sometimes accompanied with pain in the epigastrium or all over the abdomen, whilst blood is occasionally found in the evacuations ; in short, the disease has now assumed the regular type of a continued fever, being most frequently that of typhus ; and appearing, when seen at this stage of the malady, as if it almost had never been preceded, by any of the remarkable symptoms mentioned in the previous paragraph, as characterizing the first invasion of cholera.

In illustration of the general outline just given of the symptoms, usually observed in those affected with the epidemick, and by way of pointing out, more clearly, its progress, I have thought it might be advantageous to relate a case of the milder, and another of the most intense form of the disease, as likewise an example wherein blueness of the skin was exhibited. With this view, I have therefore selected, the third case reported in Mr. Greenhow's able work, on the cholera prevalent at Newcastle and Gateshead. Others, even more mild than this, might be mentioned, but the one now quoted will suffice for the present purpose. The subject of the disease was a married woman, the mother of a large family, aged forty-two, and named Catherine Bogue. On the 2d of January last, late at night, this individual made a hearty supper of salted fish, and at two the following morning, she was seized with bilious diarrhœa ; after this, the stools continued frequent, copious, and watery. During the day, Mrs. B. continued her employment in a wine cellar, and took some soup with portions of meat in it, at dinner ; at 11 P. M. of the 3d

of January, no vomiting had yet taken place, but she did then feel an inclination to vomit. Tongue was moist and rather white; skin warm, pulse 86, rather full; she passed water with the stool she last had, an hour before, complains of pain in the forehead and abdomen, which is tender on pressure; voice hoarse, countenance sunk, and expressive of much suffering; she has no cramp, but frequent shiverings during the day. Full vomiting having been induced by drinking large quantities of warm water, the patient in the course of the emetic operation, brought up the fish eaten at supper the previous evening, and large portions of meat were also rejected. Three stools rapidly succeeded each other; they were copious and loose; and though the first contained bilious matter, the last resembled gruel or rice water.

She passed a restless night, and on the 4th, there was much purging of rice water, and she had severe cramps in the legs; pulse 96, and soft; no pain in head or abdomen; she had a feeling of sickness, without however any vomiting; the tongue was moist, warm, and rather white; but no urine was passed. At 10 p. m., there was no pain or cramp, stools not so frequent, but were feculent and bilious, and she had still occasional cramps in the course of the afternoon, but otherwise felt comfortable.

On the 5th, at 11 a. m., it was reported she had frequent vomiting, and purging, with cramps during the night; and no water had been passed. Pulse 96, rather weak; tongue clean and moist, with thirst; the stools, and matter vomited, resembled gruel, with a slight yellow, or greenish hue; she felt sick, but was afterwards easy. In the afternoon, she had no vomit-

ing, though still a feeling of nausea; cramp, and purging, was less frequent; stools more feculent and bilious; and urine was discharged." On the 6th, this patient was convalescent.

The case I would next refer to, as exhibiting all the violent features of this disease, and proving fatal, is extracted from a work of the very best authority, the seventh number of the Cholera Gazette, published the 7th of April last. It occurred on board the convict ship, Katherine Steward Forbes, and is reported by Mr. Stephenson, Surgeon in the Royal Navy.

The subject of this violent form of the disease, and proving fatal in twenty-three hours, was one of the convicts named James France, and in the twenty-first year of his age. "About three o'clock, on the 29th of February last, he was brought into the hospital in a state of extreme exhaustion, with violent vomiting and purging. The muscles of the abdomen were in a state of spasm, and those of the thighs and legs drawn into balls, or knots, as hard as wood; his face was deadly pale; the nose pinched up at the alæ; skin in every part, especially the extremities, cold as ice, and shrivelled; the voice had sunk to a whisper, and there was not the lightest pulsation to be felt at any part." Mr. Stephenson was told, "this patient had eaten his breakfast as usual, and even some dinner: at 1 P. M., he was suffering extreme agony, and incessantly calling for cold water."

After full vomiting had been produced by an emetic, "he appeared somewhat relieved, still the muscular pain was excruciating, but in a warm bath it ceased altogether, and the balls or knots on the thighs and legs, appeared to dissolve. At eight in the evening,

the patient was in the same state of collapse, but there was no spasm, nor had he vomited for nearly an hour.

On the 1st of March, at 4 A. M. "The body was slightly warm, but legs and feet as before: purging through the night continued incessant; the matter discharged resembling very thin paste; that vomited, or rather spouted from the stomach, was what he had swallowed.

At 8 A. M., "the state of exhaustion, was, if possible, greater; his eyes were sunk, and glassy; skin cold and shrivelled; face pale as death, except round the eyes, where it was a lead colour; no pulsation; no pain; stools very frequent; vomiting rather less; voice scarcely audible; clammy sweat about the neck; and about noon he became in a great measure insensible, in which state he continued till about half-past two, P. M., when he expired."

The history of the patient I have still to give, as exhibiting the blueness of the extremities and skin, sometimes, though not always present in this disease, like the former mild case, is selected from Mr. Greenhow's work, and forms the sixth he has reported; and here the reasons ought first to be explained, why I thus prefer taking cases from the records of others, instead of giving them on my own authority. It is, because I am anxious it may be perceived the reasoning used, and the conclusions come to in the course of this inquiry, are drawn from data supplied by others, and especially from authors supporting opinions, different from those I entertain. In this way, there can be no partiality in detailing the particulars of cases, and by adopting this mode of proceeding, all reasoning must therefore bend

to explain the facts, not the facts made to suit the reasoning.

The subject of this case, was about forty-six years of age, and named John Robson. On the 11th of December last, he had attended the funeral of a person who had died of cholera, but nothing is at all mentioned, where Robson lived, how he employed his time, whether he was previously in good health, what he eat, or if he was even an inhabitant of a cholera district. In short, no collateral circumstances are related, excepting he had unfortunately attended the funeral of a person dead of cholera; but so had perhaps many others; and to make the circumstance of any weight, or worth noticing, it should be known, did they all likewise take the disease. It might as well have been reported, he had been to church the Sunday previous. But in medical societies, or otherwise, this mode of reasoning is always resorted to, when the question of contagion is being discussed, and if a man had only attended a funeral, or a washerwoman had unluckily thrown dirty linen into soapsuds, before being seized with spasms, or with cholera, then the proof of contagion was put beyond the shadow of a doubt, and no farther inquiry was necessary, or ought to be instituted; for to disbelieve in the doctrine of contagion after such convincing demonstration, is stigmatized, as the greatest obstinacy, or wilful blindness of intellect, and perversion of the reasoning faculties, that could well be conceived. Nevertheless, excepting stronger proofs than any similar to those now mentioned, can be brought forward, to support the opinion of the disease being communicated from person to person, by contagion, they had as well be omitted, for without having

a correct knowledge of all the collateral circumstances, and at the same time considering the explanation which may otherwise be given, they will rather serve to mislead, instead of correcting the judgment. The talented author of the book now quoted, will pardon the present digression; and should this page ever meet his eye, it must be understood, these observations are by no means directed against his publication in particular, or with any critical intention of censuring him, for the doubtless inadvertent omission; but should this ever be supposed, perhaps the feeling will be abandoned on considering likewise, the accompanying explanation. It is against the too general custom, of arguing, upon the *post hoc, ergo, propter hoc*, system, these animadversions are employed; and also to caution against imitating that facility so often exhibited of concluding, such an individual had taken the disease, merely, because he was one of the attendants at the funeral of a cholera patient, or perhaps had touched his dead body, before interment.

Apologizing for this, perhaps misplaced allusion to contagion, it is necessary to resume the history of Robson's case. At 5 A. M., of the 12th of December, "he was seized with vomiting, purging, and severe cramps in the limbs. At 2 P. M., his countenance was livid and ghastly; tongue and breath cold, hands and arms blue to the elbow; no pulse felt at the wrist, or elsewhere; severe cramps in the legs; great jactitation, and excessive restlessness; severe pain and tenderness at præcordia; urgent thirst; voice altered to a whisper, and he lately passed a stool of the rice water character, devoid of bile or feculent matter; no urine passed since the attack. By a vein which was opened, a few ounces of blood were squeezed out in drops, having a thick,

tenacious, and black appearance, hanging from the arm in strings. The bed-pan was frequently asked for, but nothing was passed. After the last attempt, so made, the patient lay back in bed, his breathing became for a minute or two somewhat laborious, and he then expired."

The discoloration, or peculiarly blue appearance of the skin here adverted to, is by no means so frequently observed, as general rumour, or the fact of the name blue cholera having been affixed to the disease, would lead us to expect; in this country, the nails and fingers may have been often seen, of a livid or bluish appearance; but the cases wherein the skin of the extremities, or the face, neck, or back have become actually blue, are not so numerous as may have been reported in other climates. Speaking from what has come under my own observation, during the prevalence of the epidemick in the metropolis, many of the patients affected, so far from being considered to have assumed this colour of skin, the reverse was the fact, a paleness, even of a deadly white was what struck the observer. Where reaction had commenced, instead of any lividity or blueness, a flush or tinge of redness, as might be expected, was present; whilst in some, it was nearly quite impossible to tell, what really was the colour of the integuments covering the face and extremities, in consequence of the misery, and utter inattention to cleanliness, on the part of those affected. In several patients this blueness was undoubtedly most distinctly marked; sometimes only the hands, the feet, or countenance was partially affected, but others again, were blue to a considerable extent; and one female was shown me at a cholera hospital, whose arms, neck, and other parts of the body, were nearly as blue as the

leaves of the common cabbage, generally used for making pickles. This patient was one of the females engaged in carrying packages at Covent Garden market, and she had been much employed, during some days previous to the attack, in very laborious work, had likewise fared badly, was often exposed to heat and cold, and had lived in an infected neighbourhood.

In the patient Robson, there is a symptom also mentioned, not noticed in any of the preceding cases, namely, the dark and peculiar appearance the blood exhibited, when venesection was performed. This symptom, constituting one of the most remarkable features, observed in the whole progress of the epidemick, has consequently attracted a great deal of attention from physicians, and it has likewise been the subject of much controversy, besides inducing speculation; whilst the aid of chemistry has been called in, for the purpose of explaining the phenomenon, and if possible, to assist the science of medicine in its removal. Much has already been written on the subject, whilst arguments, the most ingenious, and apparently satisfactory, have been brought forward to prove, the black, thick, and ropy appearances usually exhibited by the blood, taken from cholera patients, to depend upon its chemical composition being changed, from what it is in health, that it is less highly oxydized, than blood ought to be, for the purposes intended in the animal œconomy, that its temperature falls much lower, than in any other diseased condition of the system, ever before observed—in short, some pathologists think, the essence of the disease may be considered as showing itself in the blood. Hence the opinion entertained, if this peculiar and diseased condition of the circulating mass, could be altered to a more healthy standard, in all probability a most essential step would be made, towards its alleviation.

Amongst the chemical investigators, more especially engaged in making this condition of the blood, in cholera patients, the subject of scientific inquiry, and who have laboured with success, particular mention ought to be made of Dr. O'Shaugnesey, the author of a late and ingenious paper on the subject; to this publication the inquirer is referred, since it comes not strictly within the range of the present essay, to enter upon this difficult, although at the same time, undoubtedly, most interesting investigation.

Perhaps no peculiarity marking the appearance of cholera, has attracted more attention, or caused greater alarm, in the minds of the public than the suddenness of its attacks; individuals, in apparently the best of health, being often at once seized with the disease, or struck like, as it were by lightning, when they rapidly sink under the violence of the first apparent onset or paroxysm. In most instances of the epidemick, there are observed previous indications of ill health, and of indisposition. These are often easily removed by appropriate treatment, whilst the mildness of the first symptoms, contrasted with the violence of those in the subsequent stage, or that of collapse exhibits, induce a belief in the minds of spectators, the disease had only then first commenced. It would perhaps be much nearer the truth, to consider cholera as being often the end of diarrhœa, whilst the paroxysm latterly present, was but the full development of a malady, for some time previously lurking in the human constitution.

When the seeds of plants are sown in the ground, some period of time must always elapse, ere the embryo can germinate, expand its leaves, or develop the fructification, a similar mode of action would appear to attend the production of diseases, affecting the human frame; and it is not going too far, in the simile, to as-

sume, the causes inducing them, are often long sown in the body before the symptoms actually appear, or break forth, even in the instantaneous manner, cholera occasionally exhibits. But here, the suddenness of an attack, is not more remarkable, than is generally observed in some other complaints, as for instance, in intermittent fever; yet no one would therefore assert, the ague had only that instant originated. Frequently the individual thus attacked, has lived, in an ague district, perfectly free from any disease; nay, he will often leave the unhealthy situation, and continue for weeks afterwards, in apparently good health, till some exciting and accidental cause develops the fever, his system had long before imbibed. If this mode of reasoning would be considered applicable, to explain the phenomena attending the appearance of ague, it must be equally so to assume it, in the instance of cholera, and hence to consider the sudden approach of the collapse in severe attacks, to mark the commencement of the disease, is an opinion not to be entertained, even in all cases, unattended by the usual premonitory symptoms. What is now stated, might as well be kept in remembrance, when similar ratiocination is employed; as it is too much the custom to view complaints as only first commencing, when any functions of the human body appear deranged; this is most fallacious, because symptoms are only the evident signs of disease, not the complaint itself, and these may not show themselves, till long after its actual existence. The human body placed under such circumstances, and thus charged with the seeds of disease, might be compared to a mine, full of combustibles, certain to spring, should a lighted match approach. So it is with many complaints, the seeds of the diseased action have perhaps been long

lying in the system, and the exciting cause was only wanting, to produce their full development.

CHAPTER VI.

PATHOLOGICAL APPEARANCES OBSERVED AFTER DEATH.

WHEN the disease proves rapidly fatal, very little change in the organization of the patients, can usually be detected; there has, in fact, been scarcely sufficient time from the commencement to the termination, for organic lesions to have taken place; and in many cases of cholera minutely examined in India, with the exception, of the vessels of the head, brain, lungs, liver, stomach, and intestines, appearing turgid, and sometimes loaded with blood; there was nothing else observed, really worthy of being mentioned. The gall bladder might sometimes be distended, at others it might be empty; whilst the ducts, in some cases, were pervious, in others, contracted; and in such cases likewise, the matters found in the stomach and intestines were similar to those which, during life, had been ejected.

In other instances of cholera proving fatal, although not quite so rapid in their course; the surface of the body appeared livid, shrunk, and felt moist. On opening the thorax, the lungs in these cases are collapsed, occasionally even to a very small size, and loaded with ropy black blood, similar to tar in thickness, and appearance. The aorta, the larger blood vessels, and likewise those in the brain, contain blood of the same quality, with which the lungs were gorged; there is an effusion of

serum frequently observed in the spinal sheath, and in the ventricles of the brain, whilst the arachnoid membrane is occasionally observed to have nearly lost its natural transparency.

Within the abdomen, the pathological appearances common in cholera, are perhaps more marked, than those seen in any other cavity of the body; but even here they will not always exhibit a decided character. The inner coat of the stomach, when that viscus is opened, appears of a crimson colour, as is likewise observed in that of the intestines, whilst there is contained in these cavities often a great quantity of flatus; from whence, on first opening the abdomen and intestines, the smell occasioned, is often exceedingly offensive. The small intestines are sometimes contracted in their diameter, usually empty, and their contents are usually found to be free from any tinge of bile, consisting principally, of a dirty whitish-like fluid, resembling mucus, thick barley water, or what the Indians call conjee, that is, a fluid simply made with rice and boiling water; sometimes, however, the intestinal fluid has more of a milky character. The large intestines are found to be more contracted in their diameter than the small, so much so, as sometimes, to make it difficult, to introduce a finger within the tube. There is congestion of the internal, and cellular coats, with even marks of inflammation exhibiting itself in patches of various magnitudes; but there are never observed signs of active, or decided inflammation. In some examples, however, the stomach and bowels appear to be even of a paler colour than ordinary. The liver is commonly gorged with blood of a dark colour, and the gall bladder appears full of dark bile, and is considerably distended, whilst the gall ducts are, sometimes, even

in these apparently incompatible conditions, quite pervious. The other viscera of the abdomen, such as the pancreas, the spleen, and kidneys, are often not much changed from a healthy structure, although loaded with blood, more than would appear to be natural. But one of the most remarkable appearances observed in all these cases, is the peculiar and unusual condition of the urinary bladder, being generally found empty, and often so much contracted, as scarcely to be the size even of a hen's egg, there is seldom any urine contained, and it is smeared on the internal surface, with a whitish glary mucus. It should likewise be observed, in these cases, the blood often exudes profusely, from the larger vessels, when cut into; whilst the heart contains black blood, and sometimes polypi throughout. Besides these particulars, it may be noted, bodies dying of this disease soon emit a fetid smell, and they often undergo rapid decomposition.

In cases, where the disease has continued for some days, previous to a fatal result taking place, the appearances just mentioned, will assume a more intense character, even occasionally taking on the appearance of mortification, in the membranes of the stomach or bowels. And in those individuals, dying during the consecutive stages of the fever, usually coming on after the collapse has been overcome, these cases generally exhibit the same corresponding pathological phenomena, observed in ordinary fevers having similar symptoms.

Neither in this country, nor India, nor the continent, has pathology really done much towards elucidating the nature, or causes inducing the disease; hence very little satisfactory information has yet been obtained, from the many dissections performed. In the days of Sydenham, pathological researches were so seldom pur-

sued, that we remain in almost utter darkness, regarding the diseased appearances, the cholera morbus of that celebrated author, may have exhibited. Even in times less remote, the science of pathology was so seldom cultivated, that no comparison can be made, by the aid of dissection, between the modern epidemick, and that described by Celsus, or Sydenham.

Latterly, great attention has been paid to the pathological appearances exhibited by disease, and much valuable knowledge has been thus acquired; but unlike the effects of other maladies attacking the human constitution, the changes produced in the organs and textures of those falling victims to cholera, in this country are often of so indistinct a character, as scarcely to account in a satisfactory manner, for the phenomena the disease had during life portrayed. However, although nothing very decisive, or sufficiently important, to account for its often so suddenly fatal termination, has yet been detected regarding the pathology of cholera, nevertheless, the result of the labours of those engaged with the inquiry, well deserve attention. The symptoms exhibited during life, and the apparent action, the disease seems to exert upon the nervous system, would naturally lead the pathologist to expect some derangement in these organs, but hitherto the research has been attended with very little success. The ganglionic plexus again, has by a few scientific inquirers, been considered, as the part most connected with the pathology of the disease; but here also, scarcely any satisfactory conclusions have yet been obtained; and from late discussions and investigations, the question regarding the condition of the plexus, and its pathology in cholera, remains now as much, if not more than ever, obscured.

Many of the fatal cases occurring in this country, have not been examined ; partly from the repugnance felt by a part of the lower ranks against dissection ; but principally from the extreme haste, with which the interments are usually performed. Besides, the popular disturbances, arising from the post mortem examinations being sometimes made, contrary to the wishes of the relations, have likewise prevented medical men, in many instances, from pursuing these inquiries ; and at Gateshead, it is reported, scarcely a single autopsy was performed by any of the medical attendants. The discouragement likewise given to dissection, by the official agents of government, lest the operation should by any chance propagate contagion, was most injurious to those engaged in studying the pathology of the epidemick, consequently, such investigations have, in some places, been almost discontinued.

However, in most of the bodies examined, it has been observed, when the abdomen is opened, the peritoneum and omentum sometimes appear reddish coloured or injected ; and in others again, only moist, and for the most part, no adhesions are observed. On the outer coat of the stomach, arborescent and blue patches have been remarked, sometimes near the pylorus, and likewise on other parts of that organ ; but in other cases, this organ is pale, and distended, or it may be even contracted in appearance ; whilst in some cases, the peritoneal coat, has been observed, to be reddish coloured. The fluid contained within this viscus, has a gruel-like appearance, or occasionally it may be either dark coloured, or of a reddish hue ; and the mucous coat, has been seen so much congested, as to appear almost of a blackish tint ; in such cases also a brownish mucus may then be observed.

The intestines sometimes appear to be very little affected, or they only show a little turgescence on the surface, they may not be much distended, but generally, they are on the contrary contracted in their diameter; the mucous membrane is usually red and vascular, whilst the contents of the bowels do, although but rarely, sometimes exhibit bile. In these cases there is seldom any fæces, and the fluid contained consists for the most part of a gruel-looking matter, or it may be slate coloured, and viscid; and again, there are instances of this disease reported, where the contained matters were reddish coloured, thick, and appearing like raspberry cream, having flocculi swimming therein, and in some cases, it is related worms have been found in the ilium. The colon is usually pale, empty, and contracted, containing likewise, a gruel-like fluid, with a pale mucous membrane.

The liver is seldom much diseased, indeed, it is often quite natural; the gall bladder is however distended in many instances, although the gall ducts are usually pervious. The spleen is often natural in appearance, but instances are reported, of its being small, flaccid, and shrivelled. The bladder is almost in every case contracted, even to a very small size, the mucous membrane is injected, or covered with a glary mucus, and the viscus itself is for the most part empty, and sometimes, is so hidden behind the pelvis, as nearly to escape observation.

The heart is usually natural in appearance, but containing black blood, often of a fluid consistence, which likewise distends both the auricles, and great vessels. The pericardium has been observed to contain a reddish serum, but this cavity may likewise be quite empty. The lungs are collapsed, containing usually, black

blood, congested on the posterior part, and when thrown into water the piece is generally found to be the lightest, and so to swim in that fluid. In the brain there are seldom any marked appearances, excepting serum being occasionally found in the ventricles; and the veins on the surface of the encephalon appear distended, but in the substance of the cerebrum, there is seldom any congestion; whilst the spinal chord and other parts connected, are ordinarily of a healthy aspect.

From an examination of the above appearances, as constituting the usual pathological alterations of structure, attending the fatal results of cholera; it may be observed, scarcely any knowledge as to the nature of the epidemick, can in this manner be gained, and very little assistance afforded towards improving, or guiding the treatment most proper to be pursued. Undoubtedly, accurate pathological knowledge of disease, is one of the first steps towards treating a complaint successfully, and although inquiries regarding the nature of the prevailing epidemick, have not hitherto derived much assistance from dissection, that is no valid reason, why the investigation should be discontinued, for like miners searching after gold or silver, much apparently useless labour is at first expended, but when the precious vein is at last found, all previous toil and repeated delays are forgotten. This may perhaps likewise be the case, with inquiries of a description, such as the present; which ought to be persevered in, and not be dismayed by defeat, or repeated disappointment.

CHAPTER VII.

THE DOCTRINE, THAT CHOLERA IS CONTAGIOUS,
EXAMINED.

THE question, whether the disease now prevailing, be really contagious, or only endemic, and depending in its propagation upon causes, quite foreign to the actual communication of one individual to another, may be virtually considered as the argumentum crucis of the whole subject; since on the settlement of so important a point, the opinions of physicians as to its nature must in a great measure depend; and certainly, all will allow, on this is ordinarily based much of the treatment, they generally pursue.

Unhesitatingly to adopt the theory of contagion, as only accounting for the propagation of this disease, is unquestionably at first sight satisfactory; whilst it appears to be the easiest mode of explaining all the phenomena; hence the facility, with which medical men and governments often adopt this ready, and apparently so conclusive method of overcoming all difficulties; but in endeavouring to prove actual contact, to be the principal, if not the only mode the disease is communicated, too much of the theory is frequently established by the reasoning adopted, and hence the abstruseness and contradictions, occasionally observed in advocates, supporting this hypothesis.

Apparently, during the numberless discussions, and in many of the pamphlets called into notice, by the controversy about contagion; the question has been too much made a matter of reasoning, and not sufficiently one of fact; with the controversialists, it has by both

sides been attempted to settle the point, with logical arguments, and to demonstrate the truth, like a problem in mathematics.

During this controversy regarding contagion, parties have likewise fallen into the mistake, of being too much disposed to draw their facts, from distant regions such as Jessore, the remote settlements of Russia, and from Poland, whilst the occurrences taking place in their own country, and even under their own observation, are neglected, or thought unworthy of serious consideration. There is one advantage this mode of argument certainly possesses, it then becomes exceedingly difficult, if not utterly impossible, to overturn or correct the evidence, brought forward to support the theory, whilst the distance, and ignorance of many collateral circumstances obscures, and retards the inquiry. Farther, if a person will only reflect, even in this country, with all its intelligence, and numerous vehicles of getting information, how exceedingly various the accounts of transactions are often reported, before any thing like accuracy or truth is established, regarding even a simple occurrence, happening but in a neighbouring street; such being the case at home, it must be much more frequently the case, with transactions taking place in other regions, and where scarcely any means of ascertaining all the facts are available. This difficulty is likewise very much increased, when we consider, that almost every inquirer is more or less biassed towards supporting particular views, and consequently he may feel disposed, to examine facts presented to his notice, in the way most conducive to explain his own hypothesis. Nothing of the kind is ever done intentionally, or to mislead; but the natural anxiety felt by every person, in the correctness of his own particular views,

leads him almost imperceptibly, to put forward every argument giving support, whilst others of a contrary tendency, may be overlooked or forgotten.

Correctly to arrive at just conclusions regarding a question, acknowledged by every one, whatever may be their shades of opinion, to be surrounded with doubts and perplexity, is most desirable, and we should more likely make progress, in the investigation, if less confidence were expressed, in the particular views and data opposite parties may have at first, and perhaps rashly adopted ; whilst the facts brought forward, and the theories promulgated by those entertaining opposite opinions, should be more scrupulously and dispassionately examined, by having placed them as it were in a light more favourable, than disputants usually think necessary.

Merely in matters of fact, a party is fully entitled firmly to adhere to them, when correct and properly established, but in matters of opinion, the affair is quite otherwise ; for if a partisan, erroneous views are perhaps thus more likely to be entertained, than if he were actuated by less anxious feelings, for the support of a particular theory. This bias has never perhaps been more evident, than during the discussions of the question regarding contagion, whether it be lately, some years ago, or in the days of Dr. Mead, already quoted ; at which period, neither of the parties would patiently listen to their opponents, would not hear any facts, nor be swayed by any reasoning, unless in favour of their own particular hypothesis.

Apparently much disputation has originated, from different meanings being attached to the same expression, as likewise in consequence, of the same expression being used, with a different explanation. In no

case does this appear more applicable, than to meanings attached to the words contagion and infection; and perhaps, much of the controversy might have been avoided, had the proper sense of the expression, been but settled at the commencement. Contagion, according to the strictest definition of the term means, that a disease is communicated by actual contact, such as syphilis, cow-pox, or where the symptoms of a disease are induced, by the absorption of any specific matter. Some physiologists give a more extended explanation to the word, considering actual contact not to be always necessary; but this is straining the meaning, and completely overlooks the proper derivation of the word, from *contingo*, to meet or touch each other, hence contagion. Thus, much of the existing differences in opinion, may be explained; since those employing the expression in its strict and most correct sense, may uselessly dispute with others, attaching the more extended definition. The former are contagionists, the latter should be called infectionists, since they consider actual contact, as not always necessary to disseminate a disease. Infection being derived from the word *inficio*, to infect, or contaminate, obviously expresses, that something may be communicated to another, without contact or any evident external agent, but through the medium, most likely of the atmosphere. A third division might be enumerated, comprehending all those denying both contagion and infection, and who might justly be named the neutrals. Had such definite explanations been adopted, much difference of opinion and argument might have been avoided, since, most likely, it would have been found, many were only combating as it were, the shadow of a distinction, when there was little or no difference in their opinions.

Whilst pursuing the investigation of this topic, the simplest mode to adopt, and the one most conducive to obtain information, will be, to state, first, the facts and arguments brought usually forward, in support of the theory of contagion, as being the manner whereby cholera is constantly propagated. The views entertained by those, having a different opinion, and otherwise explaining the phenomena, should next be considered. Having performed both these undertakings, with as much impartiality as possible, the evidence on both sides of the question, should then be sifted and weighed, so that the inquirer may perhaps be enabled to arrive at correct conclusions ; keeping however constantly in remembrance this great principle, if the interests of the public are concerned, they must guide the decision ; for where the evidence appears doubtful, theory must bend, and not sanction any determination, which might prove detrimental to the community. Assuredly, it cannot be expected, every argument brought forward, either for or against contagion, will be entered upon seriatim ; to do this, would almost be interminable, and mere waste of time ; the principal facts and consequent reasoning, need only be investigated, lest the subject might extend beyond the limits proposed.

The circumstances considered great proofs of the contagious nature of cholera, is the origin of the disease in the east, its gradual progress westward, its following the haunts of men, the highways, and also the course of rivers. Great importance has likewise been attached, to its peculiarity, in keeping on a certain course, just like a traveller during a journey, unchecked by mountains or floods, by deserts or the ocean. Some have attempted to get rid of the argument, adduced from these facts, by denying in limine, their authenticity : but this is far from being a

satisfactory mode of proceeding. The fact of plagues and pestilences being brought from the east, is one of the oldest traditions of antiquity; and the influence, even an ordinary east wind has upon the constitutions of most individuals, besides producing disease, as for instance the ague, shows that atmospheric currents from the east are always unhealthy.

The assertion however, that cholera only follows the haunts of man, is a most feeble argument, and scarcely requires an answer, since any disease could only prevail, where there are inhabitants, and the more numerous they are, so must the number of victims by any epidemick be augmented. Again, the circumstance of the disease following the course of rivers, attacking towns lying on their banks, whilst those on more elevated and differently situated regions, escape the ravages of the pestilence, can easily be explained, by the prevalence of miasmata and local exhalations, in those moist and naturally unhealthy situations; for other epidemics, as well as the present, produce effects quite as marked, although not in so great a degree, where there are similar localities.

Great importance has usually been ascribed to the circumstance, of three or four individuals living in the same house, being successively attacked with the disease; but where this happens, it should always be remembered, every one of these individuals were equally living, under the influence of the same local and general causes, producing the complaint, and what will give cholera to one person, may do so likewise to another; without calling to aid the explanation, upon the circumstance of actual contact. Those influences giving the disease to A, may do the same to B, and if C, although coming from another quarter, exposes himself sufficiently long, to the action of the same local causes, he

may equally become affected; much in the same way as ague is disseminated, among the members of a similar community, if situated in the same marshy district; but no one would surely from thence assert, the intermittent fever was contagious.

The accuracy and distinctness, with which the progress of the disease has been traced, from individual to individual, the date of its importation, the exact mode this introduction was effected, have all been triumphantly appealed to, as unanswerable arguments, in favour of contagion; but unfortunately for those, supporting this easy mode of solving all difficulties, the chain of reasoning is so frequently interrupted, so many broken links are found, that upon such an explanation we can place but little dependence; and even before the first communication from the infected, to a healthy situation was established, instances of the disease of so strongly marked a character, as not to be mistaken, have occurred in such localities; and although the disease has subsequently been denied to be the genuine epidemick, the fallacy of the assertion was such, as to carry in its face, a complete refutation.

Instances have been related, of persons becoming affected with cholera, from only passing near an infected individual, or visiting the house, where a patient lay ill of the disease; such examples, it is certainly often difficult to explain; principally, because this single fact is only known, whilst all collateral circumstances, or the previous history are kept out of sight, or forgotten. However, the contagionists are fully satisfied, with having thus completed the link, in the chain of communication, and they go no farther; did they but doubt a little the accuracy of their own, and in many instances hasty conclusions, a re-examination into all the circumstances

of the case, might have thrown a new light upon the subject, and shown the disease would have broken out, without even the aid of any personal communication. Notwithstanding, relations and others may have been attacked, with symptoms similar to those affecting the deceased individual, they had just followed to the grave; and although this has repeatedly been asserted, as a decided proof of the same disease being communicated; still the circumstance is not conclusive, for it should be remembered, those following a corpse to the grave are usually the relations, or immediate neighbours of the defunct, and consequently are persons generally placed, under the influence of the same local and atmospheric causes, as those already affected; and as unfortunately, this ceremony, instead of being one of real mourning, becomes sometimes with the lower ranks, the occasion for drunkenness and excess, along with mental excitement, a few of the most influential causes producing the disease, are thus brought into operation. On the other hand, the well-established fact, of scarcely any medical men becoming affected with disease, even after being engaged for hours in attending upon the sick, and farther, the immunity with which surgeons have performed the dissection of patients dying of cholera, must surely counterbalance any conclusion, drawn from so equivocal evidence, as the following of corpses to the church, or the grave, can produce.

Unequivocal examples have been related, of the disease being communicated through articles of dress; but here so little is generally known, of the previous symptoms, or concomitant circumstances of individuals so affected, that the evidence will very seldom bear out the conclusion. Many apparently strong instances of this kind have been mentioned; thus a lady

during a journey in the stage coach, having accidentally covered herself with a cloak, she had borrowed from a gentleman, lately affected with cholera, the contagion in this case was such, that it is reported she became soon afterwards attacked with a similar train of symptoms, to those affecting the owner of the garment; the maid servant likewise is said to have been seized; and so remarkable were these circumstances, they have been considered sufficiently convincing, to shake the opinions previously entertained, by an advocate of the non-contagious character of the disease; and to induce him to adopt an opposite conclusion; but however singular, some of the peculiarities in this instance may have appeared, much information remains to be acquired, relative to the habit of body of these individuals, their previous history, and whether they had been exposed to any local or atmospheric influences, sufficient to have caused the train of symptoms subsequently developed, without the intervention of the cloak, considered to have been infected.

Exceeding difficulty is always encountered, in ascertaining the collateral circumstances of cases, said to prove contagion; some points are overlooked, others are unknown; thus in the case of another lady, the same doubt exists, who, it is related, got cholera, only from having thrown the clothes of her husband out at the window of a room, to be consumed in a fire made in the court-yard below, on purpose to destroy any fomites of contagion the clothes might have imbibed; lest the wearer, although inhabiting an infected district, might perhaps have got the disease in some way about him, since he had been all that morning in question, engaged in visiting and administering relief to his diseased neighbours. But no person surely would

seriously consider examples like those now related, indubitable proofs of the contagious character of cholera ; the data and reasoning appear scarcely worth examination. Nevertheless, much of the fear about contagion, originates from believing such instances to be sufficiently convincing, and clearly to demonstrate the manner of propagation. Many examples quite as absurd are in circulation, but with all respect for those bringing forward such proofs, to support the doctrine of contagion, one cannot help thinking, that credulity assists nearly as much in producing conviction, as would powerful facts, or reasoning, the most convincing and philosophical.

Numerous other arguments, although certainly of minor importance, have been appealed to, in support of contagion. Most of these are of so little weight, it would be almost superfluous now to enumerate, or to attempt their refutation. For in a question of such magnitude, if the principal arguments are not amply sufficient to establish a particular doctrine, the minor need scarcely be considered ; since in all discussions, general principles ought chiefly to engage attention, whilst the establishment or rejection of the leading proofs supporting an opinion, is almost all that is required. Abandoning therefore as unnecessary, the consideration of any other arguments brought forward to the aid of contagion, the next question for examination will be the proofs relied upon, as showing the correctness of an opposite doctrine, which will form the subject of the succeeding chapter.

CHAPTER VIII.

PROOFS AND ARGUMENTS THAT CHOLERA IS NOT
CONTAGIOUS.

UNDOUBTEDLY to show in a satisfactory manner, the epidemic cholera not to be a contagious disease, would be making a great step towards its prevention and successful treatment; for however speculative this may at first sight appear, to explain the mode whereby the disease is actually propagated, every one on mature consideration, will grant, is most essential; even the moral influence of such a question, when unsettled, makes it most desirable to arrive at some definite conclusion. To consider the views now entertained, as being those which are only correct, or the proofs supporting them to be alone conclusive, would be assuming more than is actually intended; but even allowing the evidence on both sides of the question to be weighed, the balance of facts and arguments must evidently appear strongest on the side of non-contagion; however, lest this might be construed as if hastily prejudging the point at issue, the principal data and arguments in support of this conclusion must, now, be minutely examined, on the same plan previously followed, when the idea of contagion was investigated.

Amongst the proofs considered to be the most important, the fact of the actual breaking out of cholera in places, where not the slightest communication had taken place with an infected district, stands prominently forward. At Sunderland, where the disease is reported to have first appeared in this country, much doubt and obscurity still hangs over the fact of foreign importa-

tion, and it is even allowed, there were cases previously in the neighbourhood. The same uncertainty exists regarding the extension of the epidemick to London, but none remains as to its appearance in Dublin; where the Board of Health patiently inquired into the subject, and after minute investigation they issued a public notice signed by the medical secretary, Dr. Barker, declaring distinctly, the disease had not been imported.

Independently of these facts, if any doubts had still existed on this point, the sudden and most extensive bursting out of cholera at Paris, without the slightest communication with any infected neighbourhood, would have settled the question. In this capital, of the individuals first attacked, one was an invalid, labouring at the same time under a disease of the heart, a patient in the Hotel Dieu, where he had been for some time an inmate, and was even then under the influence of mercury. The next patient was the cook of one of the marshals of France, but they surely had no communication with any person affected by cholera.

The appearance of the disease in the capital of France, without having first affected the intermediate towns, excepting its simultaneous occurrence amongst a few fishermen at Calais, and it should be observed, not amongst those employed in the quarantine establishment, or having direct communication with England, constitutes a fact of the utmost importance. Besides, it ought not to be overlooked, that neither Rochester, Dover, nor Amiens, although all these towns are situated on the course of a great highway, and possess other peculiarities considered essentially predisposing to attacks of the pestilence, yet none of them were affected: thus at once overturning, the

often-repeated doctrine of sea-ports, highways, banks of rivers and the like being the places it would principally attack, and that such was the course the disease would always pursue.

Innumerable instances might likewise, on the other hand be related, where cholera has appeared, without the most remote previous communication with infected places being established. That of Miss Turnbull, of No. 20, Great St. Vincent Street, Glasgow, is a remarkable case and most convincing. This young lady, the governess of a respectable family, had not been out of the house for three weeks, had held no communication with any sick individual, nevertheless she caught the epidemic disease, and in a few hours afterwards, she expired.

From most of the places, where the disease has prevailed, other examples might easily be quoted, but, at present, instances occurring in London, may perhaps, whilst they are to the point, be more satisfactory. Thus, the first case, admitted into the Cholera Infirmary of St. James's parish, proves unanswerably the non-contagious character of the epidemick. This individual was named Hopkins, by trade a farrier, and lived at No. 5, Archer Street, Great Windmill Street. He had never slept from home, for the last four months of his life, nor had he visited any person affected; notwithstanding these facts, he was taken ill with the disease, and died at the end of forty hours; and it should be observed, the symptoms were declared to be as severe and well marked, as any case hitherto reported in the metropolis. In addition to the circumstance, that no source from whence the disease could be produced in this patient was ascertained, there is this still stronger fact, and one impossible to overcome,

namely, neither his relations, living with him in the same filthy and low apartment, nor any of the numerous lodgers were affected with a similar complaint; although even in the room immediately above the one occupied by Hopkins, was kept a day school, where about thirty-five children constantly attended. But neither here, at the place where the patient worked, nor in the whole neighbourhood, has any other case been reported; and had even the mother or brother of the deceased been likewise attacked, contagion would not thereby have been proved; for all were living under the same local and atmospheric influences; however, this coincidence sometimes considered confirmatory of contagion did not appear, as not a single instance of the epidemick has there occurred. This solitary case having taken place in a situation, where it was very easy to ascertain both the direct and indirect evidence, there cannot exist the same doubts, which occasionally appertain to cases occurring at a distance, because they may be partially investigated.

The circumstances attending the case of Sandilands, in March last, at that time living at No. 20, George Street, Grosvenor Square, have been appealed to by the contagionists, as exhibiting triumphant proofs of the communicability of the disease. In this person then in the enjoyment of excellent health, according to public report, the disease was communicated, principally by touching the dead body of his wife, recently dead of the prevailing complaint. This individual having likewise taken a most active part, at the inquest on his deceased wife, was in consequence of these exposures to contagion, taken so ill in the night following, that he went to the hospital at five o'clock in the morning, and died with all the most

marked symptoms of the epidemick, at one the same afternoon.

The sensation this case made at the time, will long be remembered, and as the occurrences happened within a very short distance, it was the more easy to ascertain all the collateral circumstances of the case ; some trouble was therefore taken to sift the evidence, and to arrive at, perhaps, more accurate conclusions, than those the public came to so precipitately. Upon inquiry it was ascertained, this individual lived by imposing upon the benevolent feelings of the charitable, from whence he got enough of money to minister to his debaucheries, although he otherwise lived miserably, and often wanted common necessities. Some weeks previous to the death of his wife, Sandilands had been attended by a medical gentleman, who judiciously prescribed the remedies, his complaint, said to have been the cholera, indicated ; this is also proved by a letter in the hand-writing of the deceased, and dated the 22d of March, in which speaking of himself, says—" I am a young man who is confined to this, some time with a bowel complaint, and has a wife, who daily expects to be put to bed ; and four young children, two of whom are also lying ill with me, and one I suppose will be with God, ere this reaches you * * * wanting common necessities * * * through a long protracted illness * * * — I shall wait at the gate, Saturday morning, please God I am able."—Whatever may at first have been said, as to contagion in this individual, it is now proved he was so indisposed with a bowel complaint, that he could not leave the house for weeks, and although he loses his wife by the disease called cholera, just when labour was expected, this could not act so powerfully in causing disease, as his exertions dur-

ing the inquest, and his continuing in a state of intoxication and frenzy, during many hours afterwards; and when exhausted by causes sufficient to overcome even a strong and healthy man, it is not wonderful if there was a relapse of his old complaint, whereby he speedily expired.

Attempts have been made to ascertain from whence the disease, in this family of the Sandilands proceeded, but nothing at all satisfactory, has been learned. This fact, however, and one of great importance in the argument, is distinctly established, no individual in the same house where three or four families reside, has since been ill or indeed was previously, and after inquiry, evidence has not been found to demonstrate that a single person, who attended the sick or was present at the inquest, or post mortem examination, had since become affected. This must undoubtedly have taken place, if there had been any contagion in the case, from the tediousness of the dissection, performed within a crowded and confined apartment, where besides the presence of many medical men, there were even women; and in consequence of the exceeding anxiety felt on the occasion, there was scarcely space for moving, whilst the atmosphere, so far from being pure, was most improper for breathing. Notwithstanding the presence of these powerful and influential causes, usually considered as conducing to contagion, the disease did not spread in the neighbourhood, and by endeavouring to prove every thing, by this case, the doctrine of contagion actually lost ground, instead of gaining; for it might well be said, since a corner-stone of the superstructure was deficient, the theory so far from being thus established, was in fact overturned.

Another instance of non-contagion might be added,

to the above, as exhibited by a patient in St. James's Infirmary, occupying a ward quite separate from the cholera establishment; this person was taken ill with a disease pronounced to be a decided example of true cholera, according to competent authority, nevertheless no other cases occurred in the infirmary, nor has the disease since extended. But farther to enumerate cases, in order to show the non-contagious character of the prevailing epidemick, would be almost a waste of words, and to extend the illustration, is quite unnecessary.

This is besides now less required, seeing many important points at first in dispute, have been surrendered by the contagionists. And at present, we hear no more of internal quarantine, nor of the strict rules at one time laid down by authority, for those in attendance upon the sick and infected; besides, nothing is now heard of the portentous words, once seriously recommended to be placed over the doors of houses, where cholera patients might be contained; these theories and recommendations are now wholly, and fortunately abandoned. Nevertheless, many talented members of the medical profession, besides others, still consider the disease can be only communicated from individual to individual, and therefore seclusion of the sick, and the continuance of quarantine are absolutely required: nay, should be most strictly enforced, because, without such restraint and regulations, the complaint must inevitably spread, devastate the country, and destroy its population.

In the course of the inquiries it has been thought necessary to make, for the purpose of gaining information, regarding the contagious character, as also the general features and phenomena of the disease; in no case, it must candidly be confessed, have sufficient or

irrefragable proofs of its contagious nature been obtained, in the sense this expression is usually understood; and this opinion is confirmed by the experience of almost all the practitioners in the Borough of Southwark, who have attended the cases reported in that district. So far at least as conversation with these gentlemen would enable one to judge, a great majority of them are non-contagionists; and here it is but due to these gentlemen to express many thanks for their continued civility, as also great willingness, to show cases, or to give information, to all visitors, and at all seasons, thus exhibiting conduct the more gratifying, when contrasted with occurrences reported to have happened elsewhere.

In confirmation of the non-contagious doctrine, the publicly expressed sentiments of gentlemen, who have discussed the subject at the London Medical Society might be cited as authority; for there, few decided opponents to the non-contagious character of the disease, offered any strong contradiction. And even in the Westminster Medical Society, where at first, members seemed a good deal divided, many have seen sufficient reason to reconsider their opinion. And some who were advocates for personal communicability, are now zealous anti-contagionists. The former views having been drawn from theory and reading, the latter, formed after personal experience and observation.

Reference might also be made to the last number of the Edinburgh Medical Journal, as showing the influence personal experience has, in enabling the scientific inquirer to form a correct judgment. This periodical, the first in point of talent perhaps in the country, and consequently one swaying the opinions of medical men, more than any other publication; at first advocated con-

tagion ; now however, after much patient investigation of the disease, at Newcastle, Musselburgh, and other places, the talented editor has in an independent and highly creditable manner, renounced his former conclusions, based no doubt, on the speculations of others ; and now, he brings forward those drawn from his own experience and investigation.

Similar, and equally creditable as likewise important admissions, might be mentioned, proving as has been advanced, in the countries where the cholera is common, that many who have not seen the complaint, when extensively epidemic in its severest form, are advocates for contagion ; but after they had actual experience, and have personally examined into the nature of the disease, its previous history, and the collateral circumstances attending its production, they then gave up the doctrine. Nor would it be altogether surprising, if in this, as in other great questions, where a reaction in opinion takes place, to find persons pass from one extreme to another, and so to deny the action of all influential causes, whether local or atmospheric as producing the disease ; but this would be equally unphilosophical, and to counteract such a tendency of opinion, no reasoning will ever be required.

The dissection of bodies dead of cholera, was at one time considered to be exceedingly apt to communicate the disease, and the circumstance was even brought forward in support of contagion ; but so few well authenticated instances exist, in support of this opinion, and so many dissections have now been performed, by surgeons without the slightest injurious consequence following, that it proves the reverse. Mr. Lizars of Edinburgh reports, he wounded himself frequently in dissecting cholera patients, and although he was apt to

suffer from ordinary punctures, yet in these cases no evil effects followed ; many friends and pupils likewise attended these post mortem examinations, but none suffered, even after having been engaged for hours together in the operation. In London the same impunity has been remarked, and neither the surgeons performing the dissection, nor the medical attendants, nor the assistants became affected, whilst at some of the anatomical schools, bodies evidently cholera patients have been received, and upon which pupils have been engaged in dissection for weeks together, without suffering injurious consequences. The health of the resurrection men has not been injured by their abominable practices ; and upon this point Mr. Lizars already quoted, reports, that of twelve resurrectionists employed in Edinburgh, none could be considered as suffering, from following their occupation. One of these certainly got cholera, but he had taken up six bodies previously with impunity, was a great drunkard, and he lived, it should be remembered, in a district, where the epidemick prevailed. If the bodies of patients dying of cholera were capable of communicating the disease, few of the individuals above mentioned could have escaped, and many must have been attacked.

Were the epidemick so decidedly contagious, as some have advanced, no member of a family would then be safe, if it should once break out in a particular house ; and although, it be granted, whatever affects the brother, may equally act upon the sister, in the same family, if all are living under similar circumstances ; nevertheless, the result is frequently the reverse, and there are seldom more than one or two persons, who become affected in the same habitation. In proof of this position, the following table may be quoted, show-

ing the total number of cholera patients reported from St. George's Parish, Southwark, between the 7th of February and the 18th of March, 1832, amounting in all to 68. Of these there were

In the workhouse.....	6
In no other house were more than 2 patients, there being in 6 houses only 2 each.....	12
In 49 houses, 1 each.....	49
In the King's Bench Prison.....	1
	<hr/>
	68

The person who made this inquiry, could not accurately ascertain the average number of inhabitants to each house ; but in answer to minute inquiries it was replied, that in most of the houses where the disease had appeared, it might justly be calculated, each room contained a family. Now here was ample food for the spreading of an epidemick, being amongst a class of people peculiarly the victims of its action, and all living in one of the worst and most unhealthy neighbourhoods of London ; where the cholera may figuratively be said, to have reigned supreme. Nevertheless, with all the predisposing causes in full operation, in a population not the most healthy or regular in their lives, and all densely crowded together ; it is found only six houses in the whole parish had two patients each, forty-nine had but one, and the remaining houses up to the 18th of March, were all without a reported instance of the disease. Surely it is superfluous to advance greater proofs than these, or to produce additional demonstration.

The very small average in the number of inhabitants

attacked, in those countries where the epidemick has prevailed, may also be mentioned in support of its non-contagious character. In those continental towns, where the disease proved last season most fatal or spread extensively, the general average in those affected was about one in every seventy-five inhabitants, whilst in other places, only one person in every two hundred of the population, showed symptoms of the prevailing epidemick. In Great Britain, the average is much under the above, indeed, it has hitherto been so insignificant, as scarcely to deserve observation.

However should doubts still remain regarding the non-contagious character of the epidemick, these will assuredly now give way, to the decided opinion deliberately expressed on the subject, by the eminent men constituting the medical officers of the Hotel Dieu at Paris, after the appearance of the disease in that metropolis. Many of the subscribers to the declaration alluded to, had visited those countries where the epidemick had previously prevailed, they had attentively watched its appearance in the French capital, had seen many cases, and had besides, carefully examined into all the particulars, and collateral circumstances, attending the appearance of the disease, before coming to a decision. But when they had done what their duty as public medical officers, as the physicians and surgeons of the first hospital in France, and a regard for their own high character, as men of science and reputation demanded, they then transmitted to the government the following important document.

“ The undersigned, physicians and surgeons of the Hotel Dieu, think it their duty to declare, in the interest of truth, that, although up to the present time, this

hospital has received the greatest number of persons affected with the cholera, they have not observed any circumstance which authorizes them to suspect, that the disease is contagious.

“ Petit.	Recamier.
Husson.	Dupuytren.
Magendie.	Breschet.
Honore.	Gueneau de Mussy.
Samson.	Cailliard.
Gendrin.	Bailliu.”

“ 31st March, 1832.”

It has been surmised this document was hasty, and if the parties signing, only had taken time to consider maturely their opinion, they would never have issued such a declaration. But thus it is always the way with partizans, either to abuse or to ridicule, when they cannot answer an argument. It cannot for a moment be contemplated, the opinions of such eminent physicians and surgeons, so well known to science and to Europe, are to be considered as conclusions hastily formed, and of no weight whatever. The declaration does these gentlemen the highest honour, and the paper becomes one of the most important documents, published during the whole course of the cholera question, whilst its beneficial effects were soon manifested both in France and in England, by the removal of quarantine restrictions, and such other antiquated delusions, still exhibited in the nineteenth century; although at variance with its boasted good sense and intelligence.

Had the medical profession in London adopted a similar, and equally decided mode of proceeding, much of the difficulty into which the country was placed, might have been avoided, less difference of opinion

would most likely have been manifested amongst medical men, whilst the endless discussions lately so prevalent would perhaps not have occurred ; whereby the confidence of the public in the opinions of the medical profession, might not have so much wavered or been shaken. Unfortunately, this was not the case, for even before the disease appeared in England, it was declared to be contagious, and some thought it a *nova pestis*, of such a virulent and communicable character, that even by a wall of brass, like the one referred to by Bishop Berkeley, the disease could not be kept out, or prevented from spreading.

If hastiness was anywhere exhibited, it surely cannot be in thus deciding, as the French medical men did from the best evidence. So long as opinions are only combated, the matter is one merely of speculation, but when any specific measures follow, which are based upon an hypothesis, the question then assumes a different position ; and consequences the most serious or irreparable, may result from such proceedings. Unwilling to overlook the benevolent motives of individuals, who considered they were doing the community an essential service, by disseminating the doctrine of contagion, with a view of guarding them against the approach of the disease, it cannot here be passed over in silence, any attempt to throw discredit on the opinions of such men as Magendie, Dupuytren, or Breschet, and to consider their proceedings as inconsiderate, is a charge which cannot be entertained.

On the commencement of the epidemick, and before a full investigation of the subject had been instituted, it appeared to many as if the disease might be classed, in the same column of contagion as typhus fever ; but even this position seems to be untenable, for with all

the evidence before the profession, and judging from its progress in England, the class of people it has almost universally attacked, the nearly total immunity of the medical men, constantly visiting patients labouring under every form, and in all stages of the disease, and considering at the same time, the very few attendants who, although constantly with the sick, have been affected ; and still farther, from the very small number of individuals attacked in the same house, being generally not more than one or two, as the table from St. George's Parish, Southwark, proves, since here seldom more than one person was seized in the most crowded habitation, it seems to be placed beyond a doubt, this epidemick may properly be classed in the same table with ague ; for it cannot with any appearance of reason, be considered in the same light, as either the eruptive fevers, common typhus, or typhus gravior.

Whilst advocating the doctrine of contagion, the supporters of this opinion like many other persons, by attempting to prove too much, have actually established less, than might reasonably at first sight have been expected, in support of the hypothesis ; and to use the expressions employed by some of the ancient controversialists on contagion, like builders in more tangible projects, their conclusions destroyed the whole fabrick they had reared, with so much trouble ; for after having, as it were, borrowed bricks from one, mortar from another, and timber from a third, by attempting to raise the building to too great a height, one of their corner stones not being firm, the whole superstructure was upset ; whereas, had they been less ambitious, and only wished to possess a goodly and more modest building, there would never have occurred such a catastrophe.

Considerable overstraining of arguments, in order to prove the doctrine of contagion, was frequently practised as already stated, in ancient times ; and it makes many disbelieve much of what otherwise, they might be disposed to grant ; for, nothing, surely can be more absurd, than the proofs gravely stated regarding the contagious character of the great pestilence, so graphically described by Boccaccio, as desolating the fair city of Florence. In this author, the disease was said to be of so virulent a nature, “ that two hogs finding in the streets the rags, which had been thrown out from off a poor man dead of the disease, after snuffling upon them, and tearing them with their teeth, fell into convulsions, and died in less than an hour.”

During the plague of London in the seventeenth year of Henry the Eighth's reign, an instance was then stated, as demonstrating the extreme contagiousness of the disease, which is quite equal to the story, mentioned by Boccaccio. This occurred in a poor woman living in Hatton Garden, who kept hens and sold the eggs. On a particular morning, this old person observed her hens to lay eggs with large plague spots on them, “ which when she saw,” so says the report, “ she cried out in agony, the Lord had visited her house ”—and soon afterwards both herself and her daughter died. Many similar anecdotes, in support of contagion, were brought forward in former times ; but it would be foreign to the present subject, to enlarge the quotations ; as the above are only now mentioned, to show what kind of proofs were referred to in ancient controversy.

Illustrations of contagion, similar to these, were formerly often implicitly believed, and perhaps in modern times, there may yet be individuals who would feel disposed to reason upon such fragile proofs, in support

of the propagation of disease, by one person to another. During an often-quoted debate in Parliament, Sheridan with that poignancy and force of language, so peculiar to him on all occasions, remarked, the minister Mr. Pitt “drew on his imagination for his facts and his memory for his wit.” A somewhat similar figure of speech might perhaps be applied to ultra-contagionists; a vivid imagination contrives to throw an appearance of conviction, round the few facts they possess, whilst acute reasoning fills up the deficiency. But the time is not distant, when few supporters will be found of ultra-contagion, and notwithstanding the question, has been supported with ability and independence, the contagion of cholera, and the fears it once occasioned, seem fast sinking into oblivion.

CHAPTER IX.

ON THE CAUSES INFLUENCING THE PRODUCTION, AND PROPAGATION OF CHOLERA.

WHILST totally unable to concur in the theory of contagion, as satisfactorily accounting for the propagation of cholera, although it is the easiest mode of interpreting all difficulties; some other explanation, it may justly be observed, ought to be given with a view to account for the appearance of the disease, and its dissemination. But before doing so, the facility exhibited, in adopting the doctrine of contagion, requires a passing observation, particularly in order to point out the similarity thus manifested by those assuming this opinion, to the zeal shown by the disciples of the Brunonian theories, when they were first promulgated. For with them, as

with the modern contagionists, nothing was so alluring, as to be able without any difficulty, to account for and explain, all the phenomena of disease, which, in fact, may be the reason, why at first, it was so easy, to gain proselytes.

The following explanation might be given, as accounting for the propagation of the epidemick, now prevalent in the metropolis ; it appears to be, in part satisfactory, and by some the conclusions are readily granted, or considered sufficient. It may be called a theory, or perhaps purely an hypothesis ; undoubtedly, this explanation is more a matter of opinion, than of fact, consequently, does not admit of proof, or absolute demonstration ; but as it apparently accounts for the appearance of the train of symptoms, constituting the disease, it merits at least notice, should it fail in producing conviction.

The epidemick, according to this view, appears to originate, in consequence of a peculiar state of atmosphere prevailing, joined to local miasmata, and other causes ; which tend, so to vitiate the air of a particular district, or habitation, that individuals, in such deteriorated places, and constantly breathing this tainted atmosphere, have their blood thereby less highly oxygenated, than is consistent with perfect health. The tone of their system, at the same time, becomes lowered, and the digestive functions get so irritable, or deranged, that any slight external cause, which, under other circumstances, would not have produced any effect, now prove influential, in exciting the disease. Of these, being ill fed, or worse clad, intemperance, exposure to cold, to wet, and the like injurious agents, are the most active, and powerful. And if to such be added, diseased, broken down, and aged constitutions, it cannot

be considered astonishing, if in the sequel, the stomach and bowels become disordered; particularly, from the extreme irritability of these organs, considered to exist, in persons placed under the above unhealthy circumstances; thus developing the cholera, or a pestilential fever, according to more recent nomenclature.

Illustrative of the decided influence, particular states of atmosphere, and local situation, have in the production of disease, reference might, with great confidence, be made, to what takes place in ague countries. There, physicians do not explain the occurrence of intermittent fever, by referring it to that convenient and ready explanation for all difficulties, namely, to contagion, but to local, atmospherical, and other causes, even sometimes the most slight; as might be shown by cases, of very frequent occurrence. Thus from imprudently sleeping, during a night journey, from Rome to Viterbo, in the unhealthy season of July, a gentleman caught the malaria fever of the country, and however slight was the exposure, he had a severe attack. Another medical gentleman, who, along with his family, had left the Eternal City on the same day, being influenced by precautionary motives, as the country was then infested with banditti, instead of moving forward, as the other, passed the whole night, in a most unhealthy situation. In consequence of this greater exposure to the influence of malaria, than the previously mentioned traveller, three of the party were attacked by the disease, in a most severe form. The physician died soon after his arrival at Florence, whilst his wife escaped the same fate, with the greatest difficulty; and if the first case had been exposed an equally long time, to the same local causes, that gentleman would likely have

also paid the forfeit of his life, for such fool-hardy imprudence.

So well marked, indeed, are the peculiar circumstances now mentioned, that in Rome for instance, during the sickly season, an individual will have the ague, from only living on one side of a street ; whilst, if he but remove to the house, a few paces opposite, he may escape. But this is not peculiar to one district, for similar facts are well known to all, who have inhabited countries, where this disease prevails. Take also the case, of a number of human beings incarcerated in a loathsome, and confined dungeon, as in the black hole of Calcutta, so well known in history ; but here, and in such a place, no one will therefore conclude, the cause of death, in those who fell victims, proceeded from a specific cause, or contagion, but principally, from the deteriorated atmosphere, the prison contained.

In support of the view above stated, as explaining the propagation of the epidemick, reference may with confidence be made, to the localities the disease has principally infested, the condition of the atmosphere at the time it was most prevalent, the constitutions and habits of life, peculiar to those affected, and also, to the history of many of the cases occurring, with their concomitant circumstances. Almost universally, the lowest class of people have been the victims of this disease, especially those living in low, damp, and filthy habitations, having broken down, and debilitated constitutions ; and still more remarkably, if they had led a life of dissipation and debauchery. Along with the class of persons now mentioned, those who had been half starved, and previously in ill health, or who were

affected with bowel complaints, should be included; for if such individuals, whose constitutions have scarcely any power of resistance, to even an ordinary malady, and who are living under the unhealthy circumstances already mentioned, commit an irregularity in diet, get intoxicated, or expose themselves to local causes, at the same time, when the atmospheric influences exist, these are sufficient to induce disease.

Many of those affected with the epidemick, when cross-examined, regarding all the particulars of their case, acknowledged, they had been affected with a bowel complaint, for a few days, and even sometimes, one or two weeks previously; that in this state, they had eaten some indigestible food, or had overloaded their stomach; after which they were seized in the night, with vomiting, purging, and the other usual symptoms. It has however been asserted, many of those attacked, with this disease, were stout and healthy subjects, previous to the sudden appearance of cholera. But there is this remarkable circumstance connected with the point, and meriting attention, the individuals so affected, are frequently females, who it is well known, never willingly acknowledge, when indisposed, that their bowels are, or have been disordered. This mistaken delicacy in women, all who practise medicine, will admit to exist, and it may in some degree account, for the variety now mentioned, regarding the previous history of many cases of cholera. Male, as likewise female patients, have sometimes, when re-inquiring into the particulars of their case, confessed to previous indisposition, along with disordered stomach and bowels; although at first, they said, the attack was sudden. Ignorance and forgetfulness are, in these instances, more to blame, than any existing intention to deceive;

for it cannot be astonishing, should uneducated minds, and hard working labourers, who never think of such matters, commit similar blunders, so as thus to mislead, the hasty, or the frequently inattentive, and prejudiced observer ; who may, sometimes without thinking, only notice those facts supporting the doctrine he espouses, whilst those having a contrary tendency, pass unheeded, or are forgotten.

Amongst the articles of food, considered to be improper, for those affected with the premonitory symptoms, and as frequently proving the exciting cause, may be enumerated, pork in all its various forms, salt fish, roasted cheese, sour soup, putrid vegetables ; in short, whatever is indigestible, decayed, or endued with little nourishment, compared to the bulk of the material ; all such are improper ; besides these, ascendent drinks, sour beer, and the like, and even cold water itself, will be found exceedingly injurious. During Lent, it is the custom in private families, but particularly at many of the workhouses of London, according to ancient usage, for the inmates to have salt fish at dinner. This, every person knows, is a very indigestible kind of food, and several cases of individuals, labouring at the time, under diarrhœa, appeared to be aggravated, indeed a few assumed all the symptoms of the prevailing epidemick. And one day in particular, at a workhouse in Surrey, of the paupers, who had dined heartily on salt fish, five were taken ill in the night, and some died the following evening. Similar examples might be adduced, of the injurious effects of indigestible food, but these will suffice for the present.

In the accounts published of the early voyages made to the South Sea, for the purpose of discovery, as also for plunder, and likewise, in the relations of more re-

cent adventurers ; there are instances mentioned, where after enduring long privations, and sometimes nearly absolute starvation, the crew have been suddenly supplied with provisions, in great abundance, whereby death has frequently been the result of their unguarded enjoyment. The phenomena attending these casualties, are not accurately described, consequently, no definite opinion can be formed ; but sufficient is yet known, to explain, why some of the poor half-starved creatures, who have lately fallen under the mortal influence, of the epidemick, should have suffered from the indulgence, of improper, or even ordinary food, particularly after previous disease, and starvation. Drinking sour beer, ascendent liquors, and even cold water, on an empty stomach, are well known to be injurious at all times, and in all seasons. But deleterious effects are more likely to be the consequence, of such improprieties, when in such debilitated constitutions, as have been recently observed, the stomach and bowels are disordered.

Very slight causes, will sometimes have a material influence, in producing disease ; as the following singular anecdote, related by Sir A. Carlisle demonstrates.

One of his pupils, settled in Warwickshire, some years ago came to London, about a frightful series of deaths occurring in a farm house. The farmer, his wife, and two inmates, had all died within a fortnight, of a most malignant putrid fever. His son, with a wife and three children, took the farm ; they immediately had the disease, and all but one perished. A stranger and two servants then occupied the house ; they all likewise died within a few weeks. The dwelling was closed, and a strict search was instituted to discover the cause. All the likely sources of offensive-

ness were examined, but nothing remarkable found, until attention was drawn to an old wooden vat, containing stale pickled pork, which was known to have been resupplied without cleansing for many succeeding years. The vat still contained some of the old pickle; it had a very peculiar stench, not putrid, but sickening; the vessel was removed and buried, the house was limewashed, and a new tenant with his family then ventured to occupy the deserted farm, and lived there for many years in good health. Another anecdote may suffice to show the noxious effects of corrupted food. The late Sir Humphrey Davy, while residing at the Royal Institution, had a putrid fever. He was rapidly recovering, when some friend induced him to eat freely of stale grouse: his disease immediately returned, under a threatening aspect; and he narrowly escaped.

Important conclusions may be drawn, from what occurred in Vienna; there, the disease spread, at first, but slowly, till after a very cold, damp, and foggy night, when great numbers were affected, followed by extensive ravages; evidently indicating, the alteration in the weather, and similar general causes, had produced the remarkable change in the epidemick, now mentioned. At Riga, the same striking effects were observed, from a sudden change in the weather. In this town, few cases of cholera, had at first occurred; indeed, for two or three months, before the general bursting out, as it were, of the disease; sporadic instances only were met with; until after the breaking up of the ice, on the river, the consequent thaw, and the very damp state of the weather, which ensued. Then truly, numberless patients were reported.

But these facts, some think, strongly prove contagion; because, until the arrival of the boats at Riga,

from the interior, and from places, where the disease already prevailed, this town was free from cholera; consequently, it must have been imported by the boatmen. This is, however, far from being the case, for independently of the fact, of well-authenticated cases having occasionally occurred, before even the arrival of these bargemen, as the inquiries of the medical practitioners of Riga, established, and which was acknowledged to the constituted authorities, after they had compared the symptoms of the early, with the other cases occurring subsequently; there is besides this well-known circumstance, reported by the British Consul of the place, that the disease did not first break out, amongst those persons, having intercourse with the lately-arrived boatmen, and considered the importers of this pestilence; but it appeared in a distant part of the town, and amongst a population, having scarcely any communication with the river, for there the disease did not, in the first instance, occur, as it assuredly ought to have done, on the principle of contagion.

Connected with Riga, and the disease there prevalent; on the authority of a gentleman who kindly communicated the circumstance, and in whose house, the event occurred, a singular instance of the facility, wherewith the disease sometimes originates, in a place affected by an epidemick may be mentioned. This gentleman had one day, a large dinner party; amongst the guests, was the Consul General of a German state, certainly neither young, nor of a very strong constitution; which circumstances ought to make persons always more cautious, in their diet and proceedings, when this epidemick prevails. The landlord, recommended his guests rigidly to abstain from French wines, as they

were declared to be then injurious to the health, and only to drink port or sherry ; since these were found to be beneficial. All followed this prudent advice, excepting the foreign consul just mentioned, who drank claret during the evening ; in consequence of this, he was seized with cholera in the night, and died the following afternoon ; whilst every person else, composing the dinner party, escaped.

When the disease in Riga, had arrived at its greatest height, and intensity, the medical practitioners, as it has been likewise in this country, generally observed, if very indigestible food was used, by the inhabitants, then attacks of the cholera were more severe, and extensive than otherwise, and it was hence remarked, cucumbers and many other kinds of vegetables, especially if used, either raw, or improperly cooked, were a most prolific exciting cause of the disease. In Paris, the sour and bad ordinary wine, taken, by even the common people, at their meals, was so injurious, as even in many instances, to act as a poison ; since almost instantly, after being drank, it developed the usual train of symptoms. Of course, the bodies of most of these persons, were in a very predisposed condition, for attacks of the disease ; and draughts of this bad, and at all times, unhealthy potation, only acted as the exciting cause. So frequent were these examples in the French metropolis, that the ignorant, were in consequence, induced to believe, the wine, they had formerly drank with comparative impunity, was now actually poisoned, so sudden and marked, was its deleterious operation. Whilst alluding to Paris, it may likewise be mentioned ; when the cholera was at its greatest intensity, the sky continued, as it had been

for some time, cloudless with a hot blazing sun: but the wind was very cold, and inflexibly fixed in the north-east, bringing with it, cold chills and destruction.

Many examples, of the injurious consequences, following irregularities of diet, and excesses in drinking intoxicating fluids, might be referred to, as there is no want of such proofs, in any of the countries, where the disease has prevailed. In Russia, it was often observed, the fetes, and ceremonies of their church so often followed by intoxication and indulgence, proved causes augmenting the complaint. At Mecca, after the fastings, and prostrations of the pilgrims, at that holy shrine, and when the feasting had begun, the disease then became most fatal, soon killing thousands where hundreds had before only fallen. Again at Gateshead, all must remember, the circumstances following the drunkenness, and excesses, there committed on Christmas day. At six o'clock of that evening, there was not a single case of cholera in the whole town; by the following afternoon, the number of patients amounted to near a hundred, more than a third of whom expired.

Even in regularly living people, but where the peculiar atmospheric, and local causes, were in operation, not only excess, but even slight imprudences in diet, prove most serious; as in the case of the Reverend Mr. Edmonstone, the clergyman of Newburn, detailed by Dr. Craigie, in his admirable paper in the Edinburgh Medical and Surgical Journal. This gentleman, lived in a situation, where the disease prevailed in a most fatal form; unfortunately, he eat heartily of pickled salmon at dinner, being no doubt then anxious and exhausted, perhaps previously indisposed, from his benevolent labours amongst his afflicted parishioners.

In consequence of these circumstances, he was taken ill in the night, and died next afternoon. And here, it can be no answer to say, this gentleman had before frequently eat pickled salmon with impunity; undoubtedly, but the collateral circumstances were formerly different; there being then no epidemic constitution prevalent in the atmosphere; and the observation does not require argument, that because at one season, certain kinds of food may be used with impunity, it should never at other times, become highly injurious.

Drunkenness proves often, a prolific cause of this disease, augmented in its effects, by the bad quality of the intoxicating liquor; thus gin in this country, and sour wine in France, appear to have been frequently most noxious. Mental excitement, popular commotions, harassing warfare, and over-fatigue, are mentioned by authors, as materially contributing, to the extension of the malady; proving distinctly, as may be collected, from considering the preceding facts, that it is not to one principal cause, as the contagionists would believe, we are to ascribe the propagation of cholera; but to the combination of many influences, and all acting under particular circumstances, difficult, it must be allowed, in some cases, satisfactorily or wholly to explain.

Indicative of the influence, atmospheric changes have in the production of cholera, reference may be made to its first appearance in London, in February last. Then, a very cold north-east wind prevailed, and had done so, for some time previously, there was likewise, an unusual thick fog, when the first cases were reported; and during the continuance of this north and easterly wind, the disease continued to increase. When the weather became milder, and the wind got more to the

west or south, the number of patients diminished ; but the north-easterly wind, a second time prevailed, when the cases rapidly increased ; and on Thursday the 22d of March, one hundred and twenty new cases were reported, and seventy-three deaths. During the first week, in April, the weather was warm, with south, and south-west winds ; and mark the coincidence ; on Friday the 6th, thirty-one new cases were reported, and seventeen deaths—the following day, Saturday, there were only twenty-three new cases and ten deaths. Again cold weather returned, and on Thursday, the 12th of April, the new cases were fifty-three, and twenty-two deaths. Another fact still, about the end of this month, the weather again became mild, with westerly winds, and on Wednesday the 25th, the new cases in London, only amounted to three. But the old, and it may well be said, the inveterate cold winds returned anew, which was followed on Saturday the 28th, by a report of ten new cases in the metropolis. But to pursue the illustration farther, would be perfectly superfluous.

If this disease was actually of such a nature, as to be communicated by one individual to another, the question naturally presents itself, where, and by what means was cholera originally produced ? as it must, at some period or other, have had a beginning ; and if any cause, or any series of influences could at one time originate the malady, the same might at another, with equal facility. Since what acted upon one human being, and induced diseased action, might, with equal reason, do so to a thousand, without the aid of personal communication. Besides, if the disease was really of that contagious nature, some have, in the warmth of their zeal, believed ; should this pestilence once begin in a country, it could never have an end, so long as there

remained a single man alive to be affected ; under which awful circumstances there must be an end to population, since the disease ought thus constantly to increase ; but the reverse is often the fact, for it has been observed, when appearing most extensively, the cholera has suddenly diminished.

These circumstances, whilst they show the powerful influence, even an apparently trivial cause may have in exciting diseased action in the human body, lead also to the reflection, that the seeds of disease, like those of plants in the ground, are frequently sown, long previous to their actual appearance, for many diseases apparently breaking out suddenly, have existed for some time in the system, and only required sufficiently powerful exciting causes, for their production. In these pages, it has been attempted to explain the spreading of this epidemick, to influences, both local and atmospheric, acting upon the fluids, the nervous, and other functions of the body in such a manner, as to prepare the individual, for the action of certain exciting causes, which under other circumstances, would have proved inoperative ; but whether this explanation may be thought conclusive, others, not the writer, must decide.

CHAPTER X.

QUARANTINE, AND SANATORY REGULATIONS.

QUARANTINE is so essentially based upon the doctrine of contagion, that the settlement of this question, must materially influence the adoption of any sanatory measures, for the prevention of cholera. The origin of

contagion, and consequent quarantine, has always thrown great doubts over its utility and reasonableness; and from being adopted by fanatical Popes, and despotic governments, to dissolve refractory councils, or to repress the rising spirit of a nation, have materially tended to confirm suspicion. But when civilized, and liberal governments, actuated by very different feelings, are induced, also to impose restrictions; the question assumes a different ground, then becomes important, and requires examination. There cannot be a doubt, but the fear of contagion, has been made a handle for political manœuvres, and the dread felt about spreading of a malignant disease, made an apology for the assembling of military cordons, and laying restrictions on trade and commerce. Whatever benefit may have ensued, from these regulations, remains yet to be proved; and however much some authors may feel disposed, to rely upon the instances related, of their utility; this question might still be considered unanswered, would the disease have spread, had there been no quarantine?

If the cholera was really so contagious, that it could be conveyed by goods, individuals, or by vessels; then quarantine might be useful and requisite, consequently, the interruption to trade, or ruin of individuals, must not be put in competition, with the general good of a nation. But, when it is considered, how fear and alarm expose persons more likely to the very evils, it is intended to avoid, whilst the imagination being excited, phantoms may be conjured up, very serious in their effects on the weak-minded and infirm; the most powerful reasons, and a perfect demonstration, in its utility, can alone justify a government, in enforcing seclusion, or to interrupt the usual relations of society,

by the establishment of quarantine, whether external or internal.

Should the opinion be well-founded, that the cholera may be communicated, by the sick or by goods; then, every person will be afraid of being infected, and so live in continual apprehension. Under these circumstances, the sick will be deserted by friends and relations, and thus, be often left to perish for want of proper care and assistance. And those who are well, will be distracted, between, on the one side, the desires, their natural affections may suggest, or raise in them, to visit their infected friends, and on the other, the fears and dismay lest they should catch the disease. If again, they refrain from visiting, and attending the sick, both they and the sound, will suffer great injury and disquietude, thus producing in all, the very worst consequences.

Upon the principle, of the disease being contagious, restraint the most severe, and confinement the most rigorous, are not only justifiable, but absolutely necessary, for the general safety; and notwithstanding the anxieties, and evils people would suffer, by being placed under restraint, these objections must not be considered. Undoubtedly, the danger would be greatly augmented, by many being debarred from their ordinary exercises and diversions; whilst restraint must likewise occasion, if not a famine, at least a great want of wholesome provisions; so as farther to augment the distraction and mortality. But if the actual necessity of quarantine, surveillance, and cordons, has really been shown, and still more, if their employment has hitherto been followed by adequate beneficial results,—they all must be submitted to with tranquillity, if possible, and with resignation.

The train of evils now mentioned are undoubtedly the natural consequences of the notions once entertained, on the subject of isolation, internal surveillance, and quarantine; however, it has been most fortunate for the community, these notions were proved to be erroneous, and it is earnestly to be wished, such doctrines so pregnant with evil, may never again come under discussion, much less be held up for imitation.

Information, if not amusement, may be obtained, by examining some of the sanitary regulations, established about the time of the plague, when the fear of contagion was more believed in, and seemed to have greater influence, than at present; not that such proceedings, should be taken as models for imitation, but rather held up as beacons for our avoidance. Thus, amongst the regulations, established during the plague of 1665, the College of Physicians recommended those, whether professionally or otherwise, going about the streets, to carry in their hands, rue, angelica, myrrh, valerian, or wormwood for the purpose of chewing, and of smelling frequently, and thus prevent contagion. Again, the Lord Mayor ordered, every infected house, to be marked with a large red cross, a foot long, with the following words written under: "Lord have mercy upon us!" The hackney coaches were directed to be always well aired, after carrying an infected person; and it was commanded, not to use the same vehicle for five or six days afterwards. But the most serious, and to the good citizens, highly objectionable regulation, was the order of the Lord Mayor; that all feasting at the city companies should be suspended; and likewise, all dinners at taverns, and ale-houses, were strictly forbidden. These regulations are curious, and may be

taken as a specimen, of what were the sanatory measures formerly adopted.

In modern times, the rules thought requisite for adoption, have never approached in strictness, to these ancient regulations ; but it cannot be denied, some of them appear quite as uncalled for, as those just related. For instance, nothing could be more ridiculous, than allowing the freest intercourse by land, whilst there existed a coast quarantine ; as if the purer air of the sea, was more likely to germinate the buds of disease, contained in a ship, or the crew, than the atmosphere on land. We may smile at the plague regulations of 1665, but future ages will be equally astonished, when informed of the above incongruity, illustrated by many instances ; and by none more remarkably, than by the fate attending the two boatmen of Fisher Row, who unfortunately sailed in their boat to Leith, but were not allowed to land, being sent off to quarantine, because the cholera had actually appeared in their native village. Had these poor men, only walked, rode, or been driven into Leith, with perhaps a coach full of their neighbours, no quarantine would have been thought necessary, no fears would have ensued. Similar inconsistencies were elsewhere observed, but one example need only be noticed. At Sunderland, it never was thought necessary, to establish any interruption to the coaches, or other modes of internal communications with the interior of England ; there was only this notable exception, all letters from hence were at first *fumigated* with sulphur, to destroy the contagion paper and ink might communicate. By sea, however, it was quite otherwise, and to bring coals required forty days' quarantine.

The views generally entertained, regarding quaran-

tine, appear to be placed on a totally erroneous principle. The object being to prevent the spreading of a disease, the restrictions ought to be, if the point is examined dispassionately, not to keep individuals from coming out, but to prevent them from going into infected places, and where the local miasmata prevail; as they thus expose themselves to the action, of the same influential causes, with others inhabiting the diseased district. The removal of the inhabitants, to a healthier, and more congenial situation, would be the most rational, and beneficial proceeding. To refer again for illustration, to the celebrated black hole of Calcutta; we find, that the surrounding cordon, or quarantine, there caused the death of almost every victim confined, within this horrid prison, from breathing its loathsome atmosphere; who would have suffered no injury, whatever, had they but been allowed, to leave this fatal dungeon. The same results, but in a less degree, may be considered to follow, strict quarantines or cordons, when placed round infected towns, from a dread, lest the devoted inhabitants should communicate the disease to those outside; for here the fear of others is thought a sufficient reason, for restraining both the sick, and the healthy, from leaving contaminated situations, whereby the evils within, are tenfold augmented.

Had a cordon of troops been placed round Sunderland, as was once gravely recommended, when the disease first appeared in that town, the consequences of such a measure, besides its almost utter impracticability, can scarcely be imagined, or contemplated without shuddering; the spreading of the epidemick, would not for one instant, have been prevented; and the evils thence accruing to the devoted inhabitants, would have been incalculable. By pursuing a much wiser course,

although apparently to the contagionists, one most hazardous and imprudent, government did all in their power, to diminish the evils produced by the disease; whilst the injury to the neighbourhood, was thereby not augmented. In thus acting, the experience of those governments, where the strictest quarantine had been tried was appealed to triumphantly, as proving its utter inutility. Indeed, the disease was invariably aggravated, by the adoption of cordons, and quarantine; and when the restrictions were removed, and unlimited intercourse allowed, the cholera generally, soon afterwards, became materially lessened; the comforts of the people were likewise less interfered with, confidence was sooner restored, and thus pecuniary loss diminished, whilst misery, and disease, were greatly ameliorated, all evils of great magnitude, but more especially so, when there is any epidemick prevailing.

After occupying so much time, in the examination of the causes which tend to produce this disease; and considering likewise, the lengthened discussion, quarantine, and more especially, contagion, has produced; it will not be necessary, nor can it be expected, to enlarge upon the means of prevention. This part of the subject is so intimately connected, with the questions previously mentioned, and amply examined into, that a brief outline will suffice, although even a more lengthened inquiry would, perhaps, not be altogether misplaced.

Carefully to avoid being influenced, by all those predisposing causes, already mentioned, would undoubtedly be one of the first steps taken, to prevent the supervention of cholera. And notwithstanding, the theory of contagion is not admitted, as the cause producing this disease, no prudent person, would ever unnecessarily place himself, under the influence, or expose himself to

the action of the same atmospheric, or local causes, giving it to another individual ; any more, than a traveller, wishing to act wisely, would needlessly sleep in an ague district, as for instance, on the route over the Pontine Marsh, instead of on the high ground near Albano.

Those inhabiting a district, where cholera prevails, whilst carefully avoiding exposure to all local and atmospheric influences, at the same time, must have unlimited reliance, upon the protecting goodness, and never ceasing care, of Divine Providence ; along with these, they should possess equanimity of mind, and moral courage. Since, the natural result of fear and perturbation, must be a depression of the animal spirits, whilst the nervous system is likewise disordered ; thus rendering the individual more liable, to be acted upon by any external pestilential impression ; therefore, whatever tends to destroy confidence, or to fill the minds of the inhabitants, of any town or country, with fright and terror, must greatly tend to their destruction ; for wherever there exists a disposition in the human subject, conducive to this disease, these influences being added, the complaint is more likely to be induced. Whilst good nourishing food is administered, it must not be overlooked, every article, of a sour, indigestible, and unhealthy quality, should be sedulously avoided. Nevertheless, however carefully, these general directions are followed, if excesses, either in eating, or in drinking, are committed, equally bad consequences must ensue, and the disease, will hence be more likely induced.

Besides these general rules, this useful hint, for the benefit of non-medical readers, may as well be added, wherever there is the slightest indication of debility,

any indisposition, or a tendency to stomach, or bowel derangements, appropriate remedies ought without delay to be prescribed. But the habitual, or injudicious use of drugs, should never be permitted, as instances are not unknown, where slight indispositions have thus been converted, into serious and dangerous complaints; besides, it is reported, even symptoms of the very disease have been induced, which till then, had only existed, in the patient's own frightened imagination.

Cleanliness, ventilation, or the assiduous employment of fumigation, and such like means of purifying the atmosphere, or correcting the influence of local miasmata, are so obviously of advantage, as not to require particular recommendation; whatever may be the opinions of the inmates of an unhealthy habitation, regarding contagion, these measures cannot but be beneficial, and should be employed. The explosion of gunpowder, by the continued firing of artillery, so as violently to agitate the atmosphere, has been gravely recommended, but however ingenious the theory, sanctioning this practice, its application seems doubtful, perhaps nugatory. If it could change the direction, and temperature of the winds, or destroy local miasmata, then some good might thereby be anticipated.

Before leaving the subject of quarantine, and sanatory regulations, it might be advantageous to dilate a little, upon the injurious consequences, which the fear of catching this disease, produces upon the public mind, the loss and derangement in the trade and commerce of the country, and the sometimes most fatal results thus caused, even to the sick themselves. The injury accruing to the whole community, from restrictions on commerce, and interruption to internal communication, are points pregnant with matter for discussion, but these

belong more to the political economists, than the physician ; consequently, they can now only be glanced at, as showing the serious consequences, exaggerated and ill-founded fears, may sometimes produce. The evils the sick may however suffer, by the great bugbear of contagion, is quite within the province of the present essay ; and in illustration of a few of its evil effects, reference need only be made, to the occurrences taking place, within the knowledge, of almost every individual. The well-known fact, of the refusal to receive a patient, suddenly taken ill in the street, at a metropolitan hospital, when the epidemick first appeared in London, has often been mentioned. The poor man thus denied admission, was subsequently taken to the Mansion House, then to Abchurch Lane, afterwards to one of the Borough hospitals, next to the Surrey Dispensary, and at last, he was humanely received into the receptacle just opened opposite to Bethlem. At one place, this unfortunate invalid had a dose of medicine, at another, calomel and opium, then brandy and water, and he was besides bled in the vehicle, whilst carrying him in this condition through the streets of London ; exhibiting a spectacle of selfishness, and absurdity, scarcely to be credited, in a civilized country, and in the nineteenth century. But the spectre of contagion had stalked forth through the land, it had shut the doors of hospitals against contaminated fellow beings, and it made many appear afraid even to touch a sick brother, to say nothing of its other evils. Were these astounding facts, not incontrovertibly authenticated, they could scarcely be believed, and future generations, when looking back on the proceedings of their forefathers, must feel astonished, if not also ashamed. What makes the above instance more re-

markable, the patient was declared afterwards, not to have had the cholera; and certainly, when seen shortly after his arrival at St. George's Fields, he had not those pathognomonic symptoms, considered characteristic.

Many nurses and attendants, were at first so frightened, lest they should take the cholera, from patients affected, that sometimes with fear and trembling, they approached the bed-sides of patients; whilst the frictions, and topical remedies required, seemed even ludicrously applied, with extended arms and averted faces. But these ignorant people were not altogether to blame, they understood the disease was highly contagious, and it was not wonderful, therefore, if they naturally wished to take care of themselves. Subsequently, however, matters became greatly changed, and the nurses, attendants, or relations felt no alarm, but administered what was required by the sufferer, and gave that attention the cases stood in need of, in a manner, alike creditable to the attendants, and useful as it was consoling, to the afflicted.

Amusing instances of the absurd length, to which a dread of catching the disease, sometimes leads individuals, might easily be collected. Like the serious consequences just related, they would likewise tend to prove, how injuriously, and sometimes even ridiculously, the mania of contagion will act in a community, when once it has taken possession of the minds of the population; of this, a single instance will be sufficient demonstration. At the St. George's Dispensary, a man was brought in from the street, labouring under a fit of apoplexy; after being bled, and otherwise treated, the patient had soon so far recovered from the attack, that a hackney coach was sent for, to carry the sick person to his own home. When the vehicle came up to the

door, the driver, having some suspicious misgivings, as to the nature of his future fare, insisted upon first seeing the individual, he was to carry ; on being pointed out, lying on a sofa, pale and almost speechless, with scarcely power to move a limb, the coachman instantly declared, “ the patient had the cholera morbus, and to take such a passenger, was more than his coach and his horses were worth.” This accordingly made all entreaties unavailing, and the poor invalid was left to get home, how he best could. The absurdity of this proceeding is only equalled, if not perhaps surpassed, by the recommendation of a distinguished individual, who actually advised an extensive coach proprietor, to apply to the privy council, or to the legislature, for power to refuse letting his vehicles, to carry any sick person, lest the disease should thereby be disseminated.

CHAPTER XI.

EXAMINATION OF PREVIOUS QUESTIONS, CONNECTED WITH THE SUBJECT.

MUCH has been written, and many facts advanced, regarding the modern origin of the cholera, in that spasmodic, and violent form, in which it has lately been observed. Many authors contend, an entirely new disease appeared for the first time, in the month of August, 1817, at Jessore, in the East Indies ; and from thence, it has, they consider, gradually extended itself, till, after travelling through Bengal, Persia, Russia, and Germany, it has at last reached the shores

of England; where the disease maintains the same identical character, it invariably exhibited, in other regions and climates. The opinion of this cholera being totally a new disease, in Great Britain, and unknown, either to physicians of the present day, or to ancient authors, is resolutely defended, by many talented individuals; hence the question becomes undoubtedly one of importance, and requires minute, and impartial examination.

In the investigation of this important point, reference of course, must be made to those authors, treating of cholera morbus, as it occurred, in ancient times. And if it can be shown, by comparing the symptoms there detailed, by the progress of the disease, and its fatal result, that there is a marked similarity in all these leading features, none but the most prejudiced, will surely deny, the identity of the cholera morbus, as described by these ancient authorities, with the epidemick lately prevailing. If there is even a slight modification in the symptoms, the principal ones remaining the same, such varieties, cannot be held as sufficient to constitute an entirely new disease. If by this doctrine, we are to decide, then every complaint, not exactly tallying, in all particulars, even the most minute, with those already known, must be put down as a new disease; a principle, like this, if strictly adhered to, must lead to the conclusion, that every epidemick, if exhibiting any, or only the slightest variety in the symptoms, must then be held as a disease hitherto unknown; a position, so untenable, as not to require serious refutation.

The account given of the progress of the cholera towards western Europe, resembles very much, what is stated of all pestilences, hitherto seen in this quarter

of the globe ; since plague, and all other noxious and extensively fatal diseases, were said constantly to come from the East. Thus, the rise of the great plague, or cholera, as believed by many authors, of 1348, is clearly traced, at least, it was so, to the entire satisfaction of the ancient authors engaged in the investigation, to Asia. According to these authorities, it originated in China, in the year 1346, from thence, advancing through Turkey, Syria, Egypt, Africa, and Greece, it approached Europe in 1347 ; when some ships carried the disease to Sicily, Pisa, and Genoa ; progressing still onward, in 1348, it got to Savoy and Spain. Subsequently, in the month of November, 1348, it at last reached England. In 1349, Scotland, Ireland, and Flanders were affected ; and finally, after spending its force in Germany, Hungary, and Denmark, it ultimately disappeared. The greatest plague ever known to have occurred in London, was of 1665, at the time reported to have been imported by cotton from Turkey ; whilst the long duration and severity of this disease, was considered by Dr. Mead and others, to be principally in consequence of the careless, and improper management of infected houses, as then directed by public authority.

By these observations, illustrative of the progress of former pestilential diseases, it is not intended, to throw doubts on the authenticity of those accounts, authors have given of the progress of the cholera westward ; but only to show, there is at least no novelty in this peculiarity, as the same has been said of many former malignant visitations. Before however entering upon the question, whether or not the disease be really of a new character, the point which ought to be first discussed, as the one perhaps more essential to all par-

ties, at the present period, because on its decision, must principally hinge the measures of government, and the opinions, as well as practice of medical men, is undoubtedly the following; not whether the malady lately, and still partially prevailing, in the metropolis, be the same in all the essential symptoms, with the complaint common in India, and known under the name of cholera; but whether this epidemick, be really a new disease. Should it not be considered a new complaint, after comparing the evidence; the conclusion will assuredly then be, it is an aggravated, and more fatal type, of that cholera morbus, so admirably described by the immortal Sydenham, by Morton, Heberden and other modern, as likewise more ancient authors. With which disease, most physicians in this country, are familiar; although generally, only prevailing in a milder, and less rapid form; but assuming the same pathognomonic symptoms, now commonly observed.

Regarding this important point, it may well be asked, who are the judges, most competent to decide the question? not surely those, who have passed their whole professional life in India, in the navy, or the army; but with all respect for gentlemen, who have served their country, with credit to themselves, and advantage to the state; it must without hesitation be allowed, medical men long conversant with the diseases of the poor of this country, with their habits of life; their constitutions, and the various epidemics, to which they are liable; these practitioners are best qualified, to make so important an inquiry. In fact, gentlemen who have gained great experience, in the diseases of the lower ranks, by visiting the cellars, and the garrets of large towns, or of the metropolis; and by long attendance

as medical officers of their numerous, and extensive hospitals.

When severe cases of cholera occurred, said to be spasmodic or Asiatic, at the period the disease appeared most prevalent, it was too frequently, and exclusively the practice, to send as judges, only one class of medical practitioners. Instead of referring, as was done, on nearly all occasions, to those who had observed cholera, in other countries; gentlemen, of the description just mentioned, the most experienced physicians and surgeons of England, ought to have been consulted; as thus, in addition to the valuable information procured, from those then only employed, the opinion of others, would in this manner, also have been obtained. And in all probability, some of the great questions, agitating the whole medical profession, as likewise the public generally, and in particular, those regarding the new or contagious character of the disease, would sooner perhaps have been settled; hence, much of the controversy, carried on with so much animation, by all parties, might likely have been avoided.

When the epidemick first appeared, instead of constantly asserting, the cases observed, were similar to what had occurred, in other climates; the strictest examination should have been made, whether it was really a new complaint, a *nova pestis* as it was once designated, and of so virulent and contagious a kind, that even the strictest quarantine, most rigid surveillance, or military cordons could not keep from spreading. When this was satisfactorily shown, not to be the case; the inquiry should then have been directed, to ascertain, whether the disease was a severe, and most fatal form, of pestilent fever, or that cholera, already often witnessed in the empire; assuming how-

ever, an unusually virulent and rapid form, at the same time having a cold stage not generally concomitant, but now superadded.

Suppose an individual has got his leg fractured, or labours under a violent inflammation of the lungs; it advances the knowledge of the physician or surgeon but little, and cannot materially contribute to the cure of these complaints, neither can it allay the anxiety of the patient, nor the fears of his friends, to be told, the affection of his lungs, or the broken bone, have identically the same symptoms, as similar cases seen in Russia, or in India. The point of most utility to learn, under these circumstances, is evidently, whether the inflammation of the lungs, or the injured extremity, be of a new character, show unusual symptoms, or have never been met with before in England; as on the decision of these questions, in a great measure, must depend, the opinion to be given by the medical attendant, and the treatment proper to be pursued.

In making these remarks, it is perhaps unnecessary to repeat, there is no wish to throw imputation, upon the official men of the country, or to reflect, in any degree, upon individuals placed in responsible, medical, and by no means enviable situations. The former, had a most difficult task to perform, in a period of great excitement and alarm; whilst the latter, could not be otherwise than most cautious in their proceedings; and it must be acknowledged, all were anxious to do, what was proved incontestibly advantageous. Some felt disposed to blame those superintending the direction and promulgation of the sanatory regulations, which emanated from government. An unwillingness may perhaps have been expressed at once to act, upon the views entertained by parties, differing from them in

opinion, but in this, as in many other questions, regarding the interests of the community, every step taken, lest errors be committed, ought to lean on the side of caution. Nevertheless, as a member of the medical profession of London, although of little influence, and whose opinion could not carry much weight, these sentiments have always been entertained, and frequently promulgated; and it is believed, in offering these observations, justification will be granted, as the only object in view, was to advocate the cause of science, the interests of the medical profession at large, and the benefit of humanity. Instead, therefore, of hearing, as on all occasions, that the case had been seen by gentlemen, who possessed great experience of the complaint, in other countries; medical authorities, of the character just mentioned, ought not to have been passed over, but likewise called upon, and consulted, whether, after mature examination, the disease was really unknown in England, and in the empire.

Had this important topic, been examined into, in the way it deserved, much of the dissatisfaction expressed, would perhaps have been avoided; and the medical profession of London, would likely have shown more unanimity of opinion, than they exhibited; hence it would have been unnecessary to dilate, in the manner it has now been thought indispensable. Nothing but satisfaction, could apparently have followed, the proposal formerly made, of referring the issues, speaking as it were legally, to a jury of medical men, composed of the oldest and most experienced members of the profession, to men in whom the public, as well as others, had the greatest confidence, and whose opinion always carries respect, if not entire conviction.

This suggestion ought not to have been passed over.

for if something similar, or even more efficacious, had been adopted ; and if means had been taken, to clear up the doubts, enveloping the few disputed points, less cause of disagreement would have existed, whilst the public would have felt confidence, in the opinions entertained, by the medical profession. At the same time, they would have more implicitly believed, in the propriety of the regulations, or other sanatory measures promulgated from authority. It is also more likely, the medical profession themselves, would have felt satisfied, every measure had been adopted, in order to explain the difficulties, with which, these controverted points were embarrassed, thus throwing distrust upon, and thus rendering nearly inoperative, many of the well intended, although perhaps joined with some mistaken, measures of government. In all public questions, it is desirable, and may also be useful, to receive the suggestions, proposed by parties differing in opinion, even should it not be thought advisable to adopt them ; as in this way, information may be obtained, discontent anticipated, or opposition conciliated.

Satisfactorily to investigate the point just mooted ; reference will first be made, to those ancient and foreign authors, treating of cholera. The opinions and descriptions of former epidemics, contained in some of the most esteemed English writers, will next be detailed ; on purpose to compare them, with the phenomena the disease has lately exhibited. A short chapter, on the sweating sickness, will afterwards be subjoined ; since an impression partially exists, of its bearing some resemblance, to the more recent complaint. These preliminary and explanatory subjects, having been amply examined, the important question may then be discussed, whether the disease now prevailing in

some parts of England, be only an old complaint, although in an aggravated form, and of more extensive appearance than ordinary ; or really a new disease, of foreign growth, and recent importation.

CHAPTER XII.

DESCRIPTION OF CHOLERA, IN ANCIENT AND FOREIGN AUTHORS.

MENTION is frequently made, in the early medical writers of cholera morbus ; and if we are to be guided by the detail of symptoms contained in these authors, there would be very little doubt, the disease now prevalent in western Europe, and which has been said, first to have broken out at Jessore in 1817, so far from being a new complaint, it will be found to be, one of the most ancient diseases, to which mankind is liable. Relative to the point of pathology, very little, if any information, can be gained from the works, of ancient medical observers ; since, they had scarcely any opportunity, of ascertaining those changes of structure in the human body, which diseases occasioned. The time and attention, of ancient physicians, was almost wholly directed, to the accurate observance of symptoms, and the effect of remedies ; whilst dissection, owing to the prejudices of the age, and difficulties attending its performance, was seldom attempted ; consequently, no comparison can be drawn, or arguments formed, on the pathology of ancient, compared with modern cholera. The point is however, of little comparative importance, as it is admitted, the appearances exhibited

after death, can scarcely lead to any definite conclusion, or to decide the identity of the cholera, mentioned, for instance, by Celsus and Sydenham, with that of the present century.

It would be quite incompatible, with the scope, and size, of the present volume, to enter at full length, into an examination, of all the ancient authors, treating of cholera. Reference will therefore be made, only to a few, and principally with the intention, of showing, by the descriptions they contain, that cholera, in all its essential, most prominent, and peculiarly marked symptoms, was both well known, and accurately described by early writers. And so far from the disease being of modern appearance, it is in fact, as old as most complaints in systems of nosology.

Asclepiades in his writings, defines cholera to be a rapid flow of humours, and for a short time, from the stomach and intestines. Cælius Aurelianus again, speaking of the same disease, distinctly states the evacuations to be similar to the white of an egg, or sometimes like to the washings of flesh ; in another part, the same author says, the countenance was of a dark brown appearance, with contractions of the limbs and joints, and coldness of the body. Avicenna alludes to watery evacuations, and also to their being like the washings of flesh, of a recent quality. By this author also, notice is taken, of weakness of the pulse, spasms, cold sweats ; and he particularly mentions, the attacks of the disease, were sudden, and death often the consequence.

But of all the ancient authors, the most minute, and perhaps the best account of this disease, is found in the writings of Celsus and Aretæus ; these writers, it is needless to observe, occupy the very highest rank,

among the medical authorities of antiquity; and their opinion always carries the greatest weight. Celsus in his admirable account of cholera, and guided by the phenomena of the disease, as observed in his day, draws inferences, and enters into arguments, nearly similar to those, now entertained by physicians, and which agitate, at the present period, the medical profession, of England, in the same way, as they may likely have done, in ancient Rome. In this classical author, it may likewise be observed, that almost every observation made by him in his works, and most of these, it is justly concluded, were from his own personal observation, present a strong mark of identity with the epidemic of modern times, and the present century. The description given by Celsus, is the following—"For at the same time, there is both vomiting and purging, besides these, there is flatulency, and the intestines are twisted or griped. Bile is discharged, upwards and downwards, at first like water, then as if recent flesh had been washed in the liquid, sometimes it is *white*, not unfrequently black or of various colours." Besides these symptoms above-mentioned, "the limbs and hands are also often contracted, there is urgent thirst, fainting or deliquium. All which symptoms being present, it is not wonderful, if the patient should die suddenly." It is not necessary to refer more at length, to the writings of this learned Roman; the object at present, being only to compare the ancient accounts of cholera, with more modern descriptions.

Aretæus enters also at large, into the consideration of this disease; and from his account of the malady, the following sentences are extracted. The narrative is not a continuous one, such paragraphs only being selected, as bear more particularly on the points, now

under consideration. According to this author, “cholera is a most acute disease, being a flowing of matters from the whole body, into the throat, upwards from the stomach, and downwards to the intestines. For whatever was collected in the mouth, gullet, or stomach, is thrown off by vomiting. The humours contained in the stomach, and intestines, are likewise rejected downwards. In the first instance, the materials vomited are like water; what is discharged per anum, is stercoraceous and liquid. If long crudity had excited this disease, what is brought away by clysters, is at first pituitous, but by and by, bilious matters are secreted. If the disease augments in severity, the tormina are more violent, fainting comes on, the limbs are rendered powerless, food is loathed, and the mind of the patient, seems as if struck with *consternation*. The tendons become rigid; the muscles of the legs and arms are contracted, or affected with cramp; the fingers are curved, vertigo supervenes, hiccup then comes on, and the nails are *livid*. The extremities become cold, the whole body is shaken with rigour, the urine is *suppressed*, and the voice is so feeble, that the sick are deprived of the power of speaking.” In the above detail of symptoms, the author particularly mentions, suppression of urine, a symptom not contained in the extract from the works of Celsus; but this may have been overlooked, as the circumstance was even then, by no means new, Hippocrates having noticed, there was much suppression of urine, in cholera.

Leaving, however the authors of antiquity, as apparently, enough has been stated, in these quotations, to establish identity of disease; more modern foreign writers may now with propriety be consulted; and here, it is but justice to allude, in terms of praise, to

the labours of an Italian physician, now in London; namely, Dr. Negri, who, in an able letter to Sir David Barry, has directed attention to a work published in 1709, by a countryman of his own, Francisco Torti. Describing the character of a fever, prevalent at the beginning of last century; Torti says, “The pernicious intermittent, more especially, that assuming the form of a tertian, kills about the beginning of a paroxysm, when it is accompanied with violent bilious vomiting, and purging of bilious humours, equally vicious both in quality and quantity; being sometimes clear, at others coloured, and occasionally, of inspissated greenish bile; to which, vomiting and purging are added; hiccup, a hoarse sonorous voice, hollowness of the eyes, pain of stomach; a little sweat upon the forehead, weak pulse, and cold, or livid extremities.” In short, the resemblance of all the symptoms is most remarkable. In the already quoted work of Torti, a case is given, of what the author calls *febris perniciosa cholericæ*, and Dr. Negri, has judiciously selected it in his letter, the following are the particulars, “The wife of B. G., after having suffered from two paroxysms of a simple tertian, in which pain in the bowels, vomiting, and diarrhœa, were such prominent symptoms, that their intermittent character was almost overlooked; sustained a third attack still more severe, accompanied with acute pain in the stomach, and intestines, constant vomiting, purging, of immense quantities of watery fluid; in consequence of which, she became cold, and pulseless, with a mortal pallidity of countenance, sunken eyes, pinched nose, and collapsed temples. The disease of this patient was regarded by every one, as cholic, and her state was considered hopeless, when Torti was sent for; upon examination,

he found the patient almost destitute of pulse, scarcely able to speak, complaining much of intestinal pain, and so cold, that he was wholly unable to decide, whether the disease were fever, or ordinary cholera." Those desirous of more extensively investigating, the disease described by this author, should consult his valuable work, entitled "Francisci Torti Mutinensis, Therapeuticæ Speciales, ad Febres quasdam perniciosas inopinato ac repente lethales, una vero China, peculiari methodo ministrata, sanabiles," which was first published in 1709.

Burserius, a professor in the University of Bologna, and who died in the year 1785, gives a short account of the cholera of his time. According to the description in his work; "Institutionum Medicinæ Practicæ;" cholera is a disease, in which "vomiting suddenly supervenes, at the same time, there are observed evacuations downwards, so that, both from the mouth and per anum, much liquid is simultaneously, and violently expelled. The malady is truly one full of danger, and proves fatal frequently in a day or two, nay, even in a few hours. And whatever is contained in the stomach or intestines, is violently expelled, by the inordinate spastic agitation of these viscera."

Germany possesses, not only many more learned physicians, but likewise, a more extensive medical literature, than is to be found, in any other language; and from this inexhaustible store, many authors might be selected, with a view, of elucidating the point, now more immediately under discussion. It will however suffice, at present, only to allude, to what is said, on this subject, by two of their best writers; namely, to professors Richter and Frank; both physicians, of the greatest eminence, in their own country, and likewise

well known, all over Europe, by their excellent medical works. And here, it may not be altogether out of place, although it assumes, somewhat the form of a digression, to observe, that German medical publications, are by far too little read, or even known, in England. In no other country, are there to be found, as just observed, so many learned and experienced physicians, as in this; and not in one kingdom only, but it may well be said, in almost every considerable town of Germany. The learning of members of the medical profession, is here proverbial, and besides knowing what passes in their own part of Europe, few medical works, of any repute, are published in any other language than their own, without most German physicians being familiar with their contents; either, by perusing the original works themselves, or through the medium of a translation. In truth, German medical literature is an immense mine of literary wealth; and however little the physicians of England, may draw knowledge from such a source, the richness of the material, would well repay the labour of making an inquiry. This small tribute, to the learning and talents of a class of men, so well deserving of notice as the physicians of Germany, will, it is believed be considered, neither misplaced nor extravagant.

Richter constituted, as every person well knows, one of the great ornaments, in the University of Gottingen, during the end of the last, and beginning of the present century, having died in 1812, at the advanced age of 70. His reputation, both as a teacher and author, extended far and wide, and any thing coming from his pen, must therefore be here, as it was in Germany, considered important. In this author's essay, on the Cholera Morbus, contained in "Die Specielle Thera-

pie ;” and with which disease Richter was acquainted, and speaks of long before, be it observed, the breaking out at Jessore of the eastern epidemick, we find the attacks described as “ sudden and coming on without any previous or premonitory symptoms.” In those affected, “ the countenance soon becomes sunk, hippocratic and pale ; the pulse is at first irregular, quick, it then becomes small, and lastly can scarcely be felt. The extremities quickly get cold, are agitated with convulsions, and the patient becomes covered, with a cold clammy sweat. Afterwards hiccup and faintings come on, with strong, and general convulsions, or cramps ; then delirium, and lastly death.” The author considers the disease might be called, an epilepsy of the stomach, and intestines ; an idea of the nature of the malady, recently also assumed, by more modern physicians. Richter in another part of the same essay, observes ; “ that sometimes, there will be a paroxysm of cold fever, accompanying the disease ;” here called by him, the “ *frightful*” cholera. In these instances, “ shivering, chills, cold, and blue nails on the fingers, precede the attack, which comes on with extraordinary severity, and the patient afterwards finds himself excessively exhausted. The extremities have also become cold, and are covered with a cold clammy perspiration ; when hiccup appears, and lastly the countenance becomes sunk, pale, and hippocratic ;” whilst the patient sometimes dies, apparently from the violence of the cramps, and convulsions. Such is Richter’s description of cholera.

The only other German authority thought necessary to quote, is Frank, so well known in England, from his masterly medical publications. Although this celebrated medical author only died a few years ago at Vienna, he

may yet be considered as a physician of the eighteenth century; since most of his medical works were published either in the end of the last, or early in the present. He lived to a very advanced age, and long enjoyed, the very highest reputation, as a learned, and experienced practitioner. The following admirable account of the symptoms of cholera, as known at, and before the period in which Frank lived, is taken from the fifth book of his work published at Vienna, in 1807, entitled “*De Curandis Hominum Morbis.*”

In the above work, he observes, “This disease occurs sporadically, and not very frequently in temperate climates, sometimes, but more seldom, as an epidemick; in warmer countries, it rages and assumes an endemic character. The cholera commonly attacks the patient, with suddenness and violence. Sometimes, we find these premonitory symptoms; a sense of lassitude, tension and pain of the stomach, and fetid eructations; nausea, frequent spitting, flatulence, and borborygmi, pungent colicky pains. After a time, violent vomiting and purging appear; sometimes together, at other times again alternating. At first, the egesta are like water; then, as if flesh had recently been immersed therein; sometimes, they are white, sometimes dark, in others, which is uncommon, they are merely a limpid lymph; in many cases, the discharges are, first, the remains of the food, that has been taken, afterwards fluids, of a bilious character, more or less mixed with mucus, now yellow, now æruginous, now dusky, dark, often very acrid and almost corrosive; with copious eructations, sometimes even blood, very frequently repeated, and with such sudden prostration of strength, that not uncommonly, a suspicion of poison having been

taken, presents itself. The stomach, in the interim, and the intestines, are convulsed in an extraordinary manner. The patient is affected with the most severe pain at the scrobiculus cordis, intense thirst, a shrill, sonorous voice, and with a great sensation of gnawing, or erosion at the umbilicus; and there is urgent tenesmus. The urine in many cases is retained, or if passed, is hot, and irritating. As the disease advances, hiccup succeeds, the muscles of the thighs, legs, and arms, are seized with spasms; the fingers are flexed, and contracted; the nails are livid, the extremities are cold, and covered with a cold clammy sweat; whilst the internal parts feel as if burning, and there is likewise syncope. The pulse, previously contracted, and very small, now becomes frequent and irregular, or now no longer to be perceived. In the worst cases of cholera, the patients, exhausted by the profuse, and rapid discharge, of humours from the stomach, and intestines, and by their cruel torments, mental and corporeal, exhibit in five or six hours, a remarkable change in their features, which are *collapsed*, and no longer like themselves. Unless the patient be speedily relieved, he sinks in the space of twenty-four hours, or on the second, third, but seldom later than the fourth day."

This document, from so able a pen as that of Frank; a man who ranked as high in his own country, for experience and observation, as perhaps ever existed, even among the many talented, and generally learned German physicians; must surely silence the most strenuous advocates for the recent origin, and novel features exhibited by the modern epidemick. And if the above minute, and strictly similar description, be not considered applicable, to many of the recently reported

cases, occurring in this, or other parts of Europe; it must almost be impossible, to point out any other, or more distinct marks, so likely as these to assist the judgment of impartial observers, in their discrimination.

CHAPTER XIII.

REFERENCES TO ENGLISH MEDICAL AUTHORS.

ANCIENT records, of epidemical diseases, prevailing in England, during the early ages, are so meagre in the detail of symptoms, that it is almost impossible to ascertain them with any accuracy; as for instance, it is difficult, if not impracticable, to find out the prominent features, distinguishing the pestilence of 1348, already mentioned, as having prevailed in London, and where 100,000 people died from the disease; it having committed besides, great ravages in Europe and in Asia. In this latter part of the world, so great was the devastation, that priests, physicians, and all classes of society, perished; nay, the very birds of the air also died; and the living were scarcely able to bury the dead. This visitation of so mortal a disease, is considered, both by some English, and foreign authorities, notwithstanding the imperfect information possessed, to have been the cholera. Had the same minute description of the phenomena, characterizing the disease, the collateral circumstances accompanying, and the pathological changes supervening, in those cases, proving fatal, been but handed down to posterity, in the same accurate manner, as future ages will obtain from the present generation, relative to the more modern epide-

mick ; then, little or no difficulty, would have existed, fully to establish the similarity of this, or any other ancient pestilential visitation, with that of more recent occurrence. Unfortunately, such facilities do not exist, and therefore we can only conjecture, what were the symptoms, from the few imperfect records remaining.

But these doubts do not apply, excepting to the most ancient medical writers of this country ; for the more modern, and in a most eminent degree, the accurate Sydenham, cannot be herein comprehended. This celebrated author, contains in his works, a description of cholera morbus, which by most physicians in this country, has been more frequently referred to, than any other, during the cholera controversy. The description, like that of all other diseases, coming under the notice of Sydenham, is clear, distinct, and not to be misunderstood ; and as the complaint, of which he treats, was of more frequent occurrence, and more fatal in its consequences, during the period he lived in, than it had been for some time before, or has since appeared, until the present prevailing complaint ; it may be considered, as constituting a similar disease, to the one he describes ; whilst many readily include them both, under the same classification.

This cholera morbus, we are told by Sydenham, was more epidemic in the year 1669, than he had ever remembered to have known it, at any other period ; generally coming on, about the close of summer, or towards the beginning of autumn ; as constantly he observes, as swallows in the beginning of spring, and cuckoos towards Midsummer. There is also an indisposition, caused by a surfeit, according to Sydenham ; which happens at any time of the year, resembling with respect to its symptoms, the cholera morbus, yielding to

the same treatment as it does, but its species, he observes, is yet different. The true cholera morbus is however, according to this accurate author, easily known, by the following symptoms. “Immoderate vomiting, and a discharge of *vitiated* humours by stool, with great difficulty and pain; violent pain and distension of the abdomen, and intestines; heartburn, thirst, quick pulse, heat and anxiety; with frequently, a small and irregular pulse; great nausea, and sometimes colliquative sweats; contraction of the limbs, fainting, coldness of the extremities; and other like symptoms, greatly terrifying the attendants, and which often destroy the patient in twenty-four hours.”

At the close of the summer of 1676, the same cholera morbus, we are likewise informed by Sydenham’s account, “raged epidemically, and being rendered more severe by the extraordinary heat of the season, was accompanied with more violent, and inveterate symptomatic convulsions, than he had ever before observed. For, not only, the abdomen, as is usual in this disease, but all the muscles of the body, and especially, those of the arms and legs, were affected with terrible spasms, so that, the patient would sometimes leap out of bed, and extend his body different ways, in order, if possible, to mitigate their violence.” To exemplify these observations, Sydenham describes a case of a person, to whom he was called at this time, along with his intimate friend, Dr. Goodal. This patient, Sydenham states, was reduced to the last extremity, by the symptoms above mentioned, as characterizing the cholera morbus; attended “with excessive vomiting, cold sweats, and a scarce perceptible pulse.” Cases of the same disease, this author likewise met with, at all seasons of the year.

Feeling anxious to know the degree of mortality, this epidemic cholera morbus exhibited, and which Sydenham mentions, was more extensive and severe, than he had ever before known, a reference was accordingly made, to the bills of mortality for the year 1669 ; but no death whatever, is reported in these documents, under the name of cholera morbus. Indeed, it should as well now be stated, that this appellation, so commonly used, in the works of Sydenham, and of most other medical authors, was not adopted, in the bills of mortality, for more than a hundred years afterwards ; nor is it found in any preceding register. However under the head of “ Gripings in the Guts,” some years previously designated “ Plague in the Guts ;” there are entered, in the burials within the bills of mortality, during the year alluded to, of 1669, the very large number of 4,385, as dying of this complaint ; undoubtedly the vulgar name, for the more scientific one, of cholera morbus, as used by Sydenham. And this in a population of not much more than 600,000, constitutes a very considerable mortality, for one disease. During the following year, or 1670, it is reported 3,690 likewise died of the same disease. The number of deaths, by this complaint, afterwards gradually fell off, and at the beginning of last century, when the population of London, amounted to 674,000, they were of a very small amount ; and in 1758, only fifty are reported to have died of this malady, so extensively fatal in the time of Sydenham.

The next authority referred to, on this question, is Morton, considered the ablest physician, and most learned member in the medical profession of his day, and a worthy successor of Sydenham ; he flourished at the end of the seventeenth century. In one of this

author's works, published in 1693, we find the following general outline, of the symptoms, characterizing the cholera morbus, of that period. In this disease he observes, "There are present enormous vomitings, and dejection of corrupted humours, from the bowels, with great difficulty and suffering; vehement pain of the stomach and intestines, cardialgia, thirst; pulse quick, frequent, small, and unequal; there is also heat and anxiety, most insupportable nausea, sweat, contractions of the legs and arms, fainting, or deliquium, the extremities are frigid, with similar symptoms, which kill in twenty-four hours."

But perhaps, the most valuable information, we can obtain, from the classical works of this experienced physician, as they may well be called, being written in excellent Latin, is the detail of some cases, occurring in his own practice, about the time already stated. Particular instances are much more important, than any general description, as that may be derived from the writings, or observations of others; but here, actual cases speak for themselves; and they constitute facts, the most stubborn, whilst they establish points in the discussion the most important, and which reasoning or sophistry, never can explain away, or overcome.

However, before quoting these instructive cases, it will be useful, and may serve to elucidate the subject, if a short digression be allowed, from the point more immediately under consideration, in order to observe, that Morton, when describing the intermittent fever, of his time, says: "this disease sometimes assumes the type of cholera morbus." In another paragraph he remarks, "When the poison," meaning of intermittent fever, "participates at the same time, of an emetic, and cathartic nature, the patient is affected with fre-

quent vomiting, and purging, from whence cholera morbus is formed." Again, in another page, we find this instructive, and most important observation. "If from the poison," that is also as regards intermittent fever, "attacking at the same moment, both the stomach and intestines, and from these parts producing a discharge of colliquative humours; there is then observed, enormous vomitings and dejections, along with horrible spasms; the same as occur, in cholera morbus."

The first case, thought advantageous, here to quote, is the one marked number four, in Morton's publication relating to proteiform diseases. The patient was a servant to a druggist, named Hall, living at Pye Corner, and it is dated the 4th of May, 1691. "Three hours after dinner, this person was taken suddenly ill, with most painful spasms of the intestines, and enormous vomiting, of different coloured bilious matters, which continued that night, with hiccup, and spasms of the stomach. The diarrhœa remained, accompanied with horrible spasms of the whole abdomen; latterly, the tormina of the intestines, and stomach, were most violent, and the vomited matter consisted of a porreaceous, blackish, thin liquor, accompanied with constant hiccup and nausea." This patient recovered, notwithstanding the violence of his symptoms, by the treatment, Morton recommended.

The next is that of a young girl, aged 16, previously in good health, of elegant appearance, and very clever, as the doctor expresses. She was taken ill on the 28th of May, and seen by the author in consultation, on the 30th. She lived in Paternoster Row, was named Thatcher, and is the seventh case reported. When visited, this patient was found, to be overcome with

incessant vomiting, and she was crying out, from the horrible spasms, she felt in the thorax and abdomen; and appeared, as if about being suffocated. Notwithstanding the violence of these symptoms, there was scarcely any fever, the urine was clear and thin, but nothing is said of its smell. The temperature of the body, was low, the extremities were cold, the pulse weak, quick, and irregular. Next day, the symptoms were even more violent, the young lady was almost suffocated, and delirious, from the severe, and excruciating pains, in the thorax, and abdomen; she threw herself about, in the bed, constantly vociferated, and the vomiting continued. This individual likewise, ultimately recovered.

It has been remarked, Morton frequently observed cholera morbus to accompany paroxysms of intermittent fever, and many cases in support of this opinion, are stated in his work relating to that disease. The example, which may at present be mentioned, is the eighth case; namely, that of Mr. Arvis. This individual, after returning from the country to London, was suddenly seized with the most acute cholera morbus, according to the author's account, very early in the morning, he having been called up to visit the patient. Morton found him affected with vehement spasms and evacuations both upwards and downwards, so that the life of the sufferer, was in the greatest danger. The extremities were cold, the pulse weak, quick, and almost extinguished, there was deliquium, whilst the other symptoms were most severe.

Notwithstanding the remarkable cases, already quoted, from the writings of Morton; a feeling may perhaps continue to linger, in the minds of readers, indicative of doubt, as to the similarity they may exhibit, to those

of more modern epidemics. Evidence should of course, be always of the clearest and strongest kind, to produce conviction : for where an opinion is hastily formed, or upon slight evidence, it is generally erroneous. To those still sceptical, perhaps, the following extraordinary, and precisely similar history of a case, to more modern occurrences, may assist in directing their judgment, to arrive at a correct conclusion. The subject of it was Mr. Amblar, living at Mile End, a valetudinarian, of spare habit of body, and upwards of fifty years old. It is the first case reported, in Morton's " *Exercitationes de Morbis Universalibus Acutis* ;" published in 1692.

This individual having one day, during rainy weather, in 1690, sailed a long time, on the Thames ; was, on his return home, suddenly seized with rigour, and horror ; to which, an unusual feeling of coldness succeeded ; during the continuance of these symptoms, the vibrations of the pulse, could scarcely be felt. He was affected copiously with vomiting, dejections, and horrible oppression of the stomach, and was attacked, as in cholera morbus. The apothecary in attendance, attempted to resuscitate the vital spark, almost extinguished, before Morton was called in to consultation. Next morning, he was visited by Morton, and he reports, " the patient exhibited a complete and well-marked hippocratic countenance, the whole body was cold like a piece of stone (*glebæ*), and covered with sweat ; the *skin*, from the coagulation of the blood, was tinged with a blackish, or (*nigredine*) swarthy colour ; the strength was almost exhausted, by his sufferings, and the perpetual evacuation, of variously coloured bile, by the mouth, and of a fœtid whitish (*albescentis*) liuid like cream, per anum. Every symptom indi-

cated approaching death, since the vital principle, or the animal spirits, appeared to be so greatly depressed, by the poison." By the aid of medicine, the strength of the pulse was a good deal restored; the blackish colour of the skin, began to vanish, and the heat of the extremities to return. (*Pulsûs robur, plurimum restitutum sensi, nigredinem cutis evanescentem, calorem in extremis partibus redintegraturam*). Nevertheless, all the symptoms soon re-appeared again, with greater intensity than before; and "the miserable patient expired, within twenty-four hours, from the time the disease first commenced."

Farther to illustrate the subject, by quotations from Morton, would be unnecessary. But the curious may, if anxious to gain additional information, examine into the particulars of the other cases reported, and amongst these might be mentioned, that of Mr. Kirk, No. 16; or of the young man Emly, No. 13; the latter of which patients, was suddenly taken ill, a short time after drinking claret, rather copiously. The perusal of all will repay the trouble of inquiry, but now to detail them at large, after the mass of evidence already transcribed, from the same prolific source, would be perfectly superfluous.

Dr. Clifton Wintringham, physician to George the First, in a book published by him, at Paris, in 1723, when alluding to the cholera morbus, described by Sydenham, distinctly observes, that it is a disease not peculiar to, or only occurring in the autumnal months, on the contrary, he himself knew, many patients, who were seized with this disease, in all the months of the year. In the work already quoted, Dr. Wintringham tells us, the cholera morbus begins, for the most part,

with “horror, there occurring at the same time, enormous vomitings, with tormina, and exhausting alvine dejections. The pulse is sometimes quick, sometimes small, and irregular. Whilst, these symptoms frequently assume, such a violent, and mortal form, as to kill the patient, within the space of twenty hours.” In another page, the same author mentions, the sick in this disease are in like manner affected with “cold sweats, and faintings.” (*Novi enim quamplurimos hoc morbo correptos fuisse, in omnibus anni mensibus * * *. Ingruit enim hoc morbus, plerumque cum horrore, accedentibus simul, vomitu enormi, torminibus, et gemebunda alvi dejectione. Pulsus aliquando celer, aliquando parvus, et inequalis, est. Hæc symptomata tanta vi, haud raro sæviunt, ut ægrum in viginti horarum spatio, interniceant.*)

Confirmatory of this observation of Wintringham; that the cholera morbus of Sydenham, is not always confined, to the autumnal months; it will be found, on referring to the bills of mortality, that from the 16th of February to the 16th of March, 1668, one hundred and twenty-five burials from plague, or griping in the guts, are reported. And for the same period, in 1669, the year already alluded to by Sydenham, on account of the unusual frequency of this disease, one hundred and forty-nine deaths are inserted, occasioned by the same complaint.

Dr. Swan, the able commentator and translator, of Sydenham's various writings, in the edition, bearing date 1742, makes in a note, the following important observation; “the cholera morbus for the most part proves mortal, no distemper, except perhaps plague and pestilential fevers, being so suddenly destructive

as the cholera, especially when it attacks children, aged persons, or those who have been debilitated by long illness."

Dr. Darwin in his *Zoonomia*, vol. i, p. 414, relates a case of cholera, occurring in England. "In this patient, large quantities of watery fluid, mixed with bile, were discharged in the beginning; but after the yellow excrement was voided, the fluid ceased to have any smell, and it appeared like curdled milk; after which, a thinner fluid and mucus were evacuated."

Dr. Cullen is the next English author, to whom reference may be made, in regard to the nature, and symptoms exhibited by the cholera, of former years. In the disease described, by this celebrated nosologist, the vomiting and purging, generally occur together; and what is rejected, upwards and downwards, appears manifestly to consist, chiefly of bile; but in many of the species, alluded to by Dr. Cullen, as contained in the classification of former nosologists, the matter evacuated, is not bilious. The disease frequently proceeds with great violence, till the strength of the patient is, greatly, and often suddenly, weakened; while a coldness of the extremities, cold sweats, and faintings coming on, an end is put to the patient's life; sometimes in the course of one day. The attacks of the cholera, described by Cullen, it should be farther observed, are seldom accompanied with any symptoms of pyrexia; yet both the pulse, and respiration, are hurried, and irregular, whilst there are spasmodic affections, peculiar to the disease, attacking the alimentary canal, and from thence, communicated to other parts of the body; when sometimes a dangerous debility is induced. But the description of this disease, given by Cullen, is so very imperfect, and indistinct, that

very little satisfactory information is procured. Indeed, it is more theoretical, than practical, and by no means, comes up to what might have naturally been expected; considering the author's celebrity; whilst this indistinctness, has led others into error, and confusion.

The disease called English cholera morbus, is considered by those contending for the contagious nature, and new character of the present epidemick, to be quite a different complaint, in its symptoms, progress, and result to those cases, and descriptions now mentioned; consequently, any reference to the older writers of this country, can prove nothing satisfactory. The disease they unhesitatingly aver, is *sui generis*, and has no relation whatever, with any complaint hitherto observed. Nevertheless, to show that even the English cholera, although some would say, another kind of malady, to the present, is not always a mild complaint, to the authors already quoted, the description given in a well-known popular work, is subjoined; not perhaps considered of high medical authority, or as an author at all to be put in conjunction, with any of those already mentioned; however, as it is well known, has been publicly referred to, and answers the purpose of continuing the narrative; besides being in the hands of most individuals, it can the more readily be examined. The publication alluded to, is Dr. Buchan's popular work, the Domestic Medicine; under the head cholera morbus, the following description of the disease will be found; not perhaps in the exact form now quoted; because the account now subjoined, is a condensed epitome.

The symptoms are heart-burn, sour belchings, and flatulencies; with pain in the stomach, and intestines.

To these, succeed vomiting, and purging, of green, yellow, or blackish-coloured bile, with a distension of the stomach, and violent griping pains. As the disease advances in its course, the pulse often sinks so low, as to become quite imperceptible; the extremities grow cold, and cramped, and are often covered, with a cold, clammy perspiration; the urine is obstructed, and there is a palpitation of the heart, whilst violent hiccup, fainting, and convulsions, are pointed out, as the signs of approaching death. Such is a general description of the disease known to the above author; but in the following page, there is this remarkable paragraph, when speaking of the symptoms of two patients, father and son, to whom Dr. Buchan was called, and attended himself. They were both taken ill, suddenly in the night; and on his arrival, in the morning, the doctor states, “no pulse could be felt, the extremities were cold, and rigid, and the countenance was *ghastly*, and the strength almost exhausted.” The other symptoms common to attacks of this disease were present, it must be presumed, although in describing these cases, this much is not specifically mentioned.

Examples exhibiting the phenomena now detailed, are most important; and being actual occurrences, they become of far greater weight, than any general description, particularly when the object is to have the identity of a disease formerly known, with one of more modern occurrence, established, or disproved; instances of a complaint, more resembling those now prevalent in different parts of England, than the two cases just quoted, could scarcely be described; the only difference certainly, being, the author says nothing of blueness of the skin, nor of rice-water evacuations. But the former symptom is not invariably observed, in this

country, or in India; indeed in many it is entirely wanting; and the latter appearances, in the fluids discharged, may have been overlooked, or forgotten.

A later author, and one certainly of much higher medical authority, who may be referred to as throwing great light, on the present subject, is Dr. Robert Jackson, so well known, for his numerous, and very valuable medical works. In his publication, on contagious fevers, Dr. Jackson, when adverting to the diseases amongst the troops, stationed on the south coast of England, previous to their embarkation for Holland, gives the case of a sergeant taken ill at Lymington, on the 20th of March, 1794. The symptoms were violent from the commencement, and on the 22d, the urine and stools were passed involuntarily; the pulse was scarcely perceptible, the skin was greasy, clammy, and of a dusky hue; lips pale, the countenance collapsed, and inanimate, the eye sunk—nevertheless, this patient recovered. In other cases, the same author speaks of the countenance expressing something impossible for words to convey; suppression of urine, spasms, in some the skin was livid, in others like marble, with the countenance dark.

After the troops went to Holland, the fever cases exhibited purple skin, and frequent spasmodic twitchings; the skin was also sometimes flaccid, dusky, and wethered. Countenance livid, tongue leaden coloured; seldom dry, and death often took place, in thirty-six hours from the commencement. But when the patients survived, secondary fever often followed, after what Dr. Jackson called, the apoplectic seizure.

The form of febrile disease, prevailing in the 3d regiment of foot, was nearly the same, as exhibited in all the infantry regiments, then in Holland. And they com-

menced, sometimes, especially in the month of September, in the form of colic, or “cholera,” according to the very words, of this author, of excruciating severity, and under these circumstances, the characteristic symptoms of fever, were not immediately developed. They had sometimes, something of a dark erysipelatous hue, particularly on the extremities; whilst the sickness, and mortality in the army was then so excessive, that one-third of the infantry died, and about one in three died of all the patients attacked.

Particular examples, however, being of more importance to the present point, than general descriptions, the following case may be quoted, from its great resemblance to the present epidemick; it occurred at Dorum in Holland, and bears date the 16th of April, 1795. “P——n, an attendant at one of the hospitals, went out at dark, for the purpose of lighting a candle, and returning in a few minutes, staggering and stupid, as if he were drunk; and being supposed to be so, by his fellow servants, he was concealed from the medical officer, until next morning, when, he was speechless, and comatose; the pulse sunk, nearly extinct, the skin *purplish*, cool, and clammy; and he died in less than thirty hours, from the time of the attack.”

In the regiments composing the expedition to St. Domingo, in 1795, Dr. Jackson describes some of the soldiers falling down instantly, as if they had been knocked on the head, by a blow from a hammer. The countenance, in these cases, was usually dark, and cloudy, like *mahogany*; pulse often suspended, and death took place, frequently before forty-eight hours had elapsed. At the Cove of Cork, before the expedition departed in the autumn, there prevailed a dysenteric fever, when there was watery purging. And at St.

Domingo, many soldiers died—some “wethered as a blighted leaf;” the countenance, during the disease, was dark like *mahogany*; when the patients were sometimes seized with convulsions, and thus expired. On examining the bodies after death; there was usually observed, congestion of the sinous veins; with the gastric system, and the coats of the alimentary canal, ordinarily much diseased.

The same author, in his sketch of the febrile diseases of the West Indies; when speaking of the dysenteric fever, says; it commonly begins with horror, shivering, nausea, and retching. The evacuations by stool, are copious, and watery, being occasionally like water, in which butcher’s meat has been washed. The pains, spasms, and gripings, were sometimes scarcely supportable; whilst the skin was dry and wethered. In another part of the same publication, Dr. Jackson relates the subjoined case, which occurred at Barbadoes on the 22d of October, 1814.—It is reported at p. 34 in the second volume.

“An artilleryman was seized last night, with sensations of deep coldness, vomiting, and purging, cramps in the limbs, and other sufferings. He was brought to the hospital, in the morning, the vomiting was then incessant; the countenance livid, the eye sunk, the pulse scarcely perceptible; the thirst excessive, the skin cold, livid, and damp, and the blood when taken flowed reluctantly.” By the treatment pursued, this patient, notwithstanding these violent symptoms, was soon convalescent.

Other authors might likewise be quoted, in support of the doctrine, afterwards to be explained, upon the proofs now brought forward, from these authorities. But to extend the references much farther, would be

both tedious, and almost superfluous ; this part of the subject will therefore be closed, by directing attention, in an especial manner, to the valuable pamphlet, recently published by Mr. Thackrah, of Leeds ; describing an epidemick lately prevalent there, and in the neighbourhood.

The disease mentioned in this publication, was preceded by an unusually wet spring, with frequent easterly winds. An observation materially bearing upon the present question ; as may be observed, in the preceding pages ; where, it is often remarked, the great and almost essential influence, cold easterly winds have, in the production of this disease. The summer of 1825, when this complaint prevailed at Leeds, was likewise remarkably warm. And if the symptoms of the cholera, then common in that part of the country, during the months of August, September, and October, be compared with those more recently observed, in the metropolis or elsewhere ; it cannot be denied, but there exists a very remarkable resemblance.

The following passages from Mr. Thackrah's publication, as being the most important, may therefore be quoted. He observed the epidemic cholera to attack one district more than another, and to be much more severe in some, than in other classes of the population. In the district of Moor-Allerton, where the inhabitants are in very great poverty, out of two hundred and ninety-nine persons, inhabiting sixty houses, eighty-one cases of cholera occurred in the autumn of 1825. In one family of six individuals, all were attacked with cholera ; in another family of four, all were attacked, and the wife died ; in one of six, all had been attacked ; in another family of six, five suffered. At the village of Halton, near Leeds, in 1825, there were in sixty houses, two hundred and ninety-eight inha-

bitants, sixty-three of these had cholera. At Kirkstall, also near Leeds; out of one hundred and seventy-two inhabitants, living in thirty houses, forty-seven had cholera. In Leeds, out of two hundred and ninety-seven inhabitants, living in sixty houses, fifty-nine had cholera. The fatal cases at Moor-Allerton, were 3-7 per cent. of those affected with the epidemick, where the disease was more prevalent than at Leeds or Halton.

From these observations, as likewise, from his previous experience, Mr. Thackrah made at the time, the following useful, and important remarks.

“ 1st. Cholera was much more prevalent in the country, than in the town. The atmosphere, the great agent, of course, in all epidemics, pure in the country, and fully subject to all the changes of season, is much more artificial in large, and populous towns. Smoke, animal effluvia, and probably also, diversities in the electric state of the air, greatly diminish its susceptibility to those changes, morbid as well as healthy, which nature effects in successive years. Thus, while the impurity of atmosphere generally prevents townsmen, enjoying robust and buoyant health, it also shields them from the violence of epidemics. Typhus frequently affords an illustration. Prevalent and fatal, in the fine and elevated village of Rawden, marked neither by poverty nor filth, it is rarely severe, in the sheltered town of Leeds, which of course, abounds with the usual fomites of disease.

“ 2d. Lofty situations, and those especially, which are almost destitute of wood, were more subject to cholera, than plains and valleys.

“ 3d. Cholera seized chiefly, the poor and debilitated. In several pauper families of Moor-Allerton, we found, that every individual had suffered, more or less,

from the epidemick, and that the three, who died in the district examined, were debilitated females, destitute of the comforts, and almost of the necessaries of life; while the fatal case we attended, not far distant, was a man oppressed with a large family, ill-fed, and hard-worked. The comparative exemption of the upper classes of society, I have often observed, in my own practice in the town; and in the country, this fact is more remarkably exemplified. At Moor-Allerton, in the district examined, there are six residences of merchants and gentlemen, containing fifty individuals; and of these, only one had cholera,—two per cent. As a contrast, we found in six of the poor houses, containing thirty-nine individuals, twenty-one had been affected with the disease—fifty-three per cent. A similar observation was made at Kirkstall. The power, in fact, of most agents of disease is diminished, in the inverse proportion to the animal vigour, of the individuals exposed.”

These observations, written in 1825, seem to refer cholera, to atmospheric influence, independent of infection, or contagion. But a note made at the same time, shows that there was also another mode of propagation suspected. “Several observations lead me to suppose, that cholera is sometimes infectious. I do not assert the fact, but I have observed as many circumstances concur, to favour this opinion, in reference to cholera, as in fever—at least, in the cases I have seen in this neighbourhood, for the last nine years. A recent examination of the details of the epidemick, produces the conviction, that, although it originated in a wide-spread constitution of the atmosphere, it was capable, in certain circumstances, of being communicated from person to person.”

At Gawthorpe, a village near Wakefield; the inha-

bitants are dirty in their persons, and have their houses very filthy, and ill ventilated; and there is no public well. When Mr. Thackrah visited this place, he likewise reports, “Of seventy houses which we examined seriatim, only seventeen had been exempt from cholera and dysentery! In a family of four, three had been attacked with cholera, and one of these afterwards with dysentery; in one of nine, seven had been ill; two in cholera, two in dysentery, and six in typhus; in one of eleven, six had been affected with dysentery; in one of five, all with cholera; in one of seven, six with cholera; in another of seven, five with dysentery; in one of nine, five with cholera, and two with dysentery; in one of four, all with cholera.”

Mr. Thackrah, then relates some cases, which, from their importance, and similitude to more recent occurrences, are well deserving of attention, as especially bearing upon the present question.

The first one reported, occurred in July 1822. “A stout and healthy man, was affected with lax, for about a week. It was not such, however, as to prevent him pursuing his usual active occupation. After chapel on Sunday, he ate a dinner of rice, and drank a mug of beer; but half an hour afterwards, about one o’clock, he was seized with copious vomiting, and aggravated purging. The dejections were light-coloured and muddy. In an hour, his face was contracted, cold and livid, and nose, to use his wife’s phrase, ‘nipped like death,’ and the circle of his mouth was purple. At 4 P. M., he was in a state of great exhaustion, suffering from severe cramp; his countenance sunk, haggard, and *purple*; pupils contracted, surface of the body universally cold and covered with a clammy sweat; pulse not to be found at the wrists, and the carotid beating weakly at 155, *voice lost*; evacuations from the bowels

wholly *destitute of bile*. For seven hours, there was no improvement; the voice was only audible, when the inquirer's ear was close to the patient's mouth. Stools were afterwards procured, of the colour of gingerbread. And ultimately, this patient recovered."

2. In August, 1824, "A strong man was attacked with vomiting and purging. The evacuations were quite devoid of bile. The cramps exceeded in violence any thing I had before seen. Such were their convulsive character, that he was once thrown out of bed, and three men were afterwards required, to hold him. The agony made him cry out with vehemence. This patient also recovered."

3. In September, 1825, "A debilitated and ailing female, attended by Mr. Corsellis, was seized at 3 A. M., with vomiting and purging. Most distressing cramps speedily ensued; the surface became cold; the countenance sunk; and, to use the phrase of a woman, who attended her, was '*all blue as violet*.' The stools were *colourless*. She could not retain them. She died about eight in the evening; seventeen hours from the commencement of the urgent symptoms. On laying out the body, the women particularly remarked, its blue-black, mottled appearance. One leg remained *fixed by spasm*, its foot resting on the shin of the other."

4. "An elderly woman, who attended the funeral of the preceding, was attacked a week after. After shearing corn all day, she went to bed well at night; but at 8 A. M., was seized with vomiting and purging, frequent and profuse. The countenance was much shrunk; the eyes sunk, and surrounded with a blue circle; the whole surface cold, and extremities quite pale. The evacuations were not seen by her medical attendant, but they were said to be yellow, and offen-

sive. She had no cramps; she lay indifferent to external objects, and constantly dosing. Some re-action took place next day; but on the third morning she became worse, continually complained of cold, and sunk at night."

5. "My excellent friend and quondam pupil, Dr. Whytehead of Beverly, has referred me to a case, which occurred, while he was with me, in the year 1825; of which I regret, that I cannot find any details recorded. "A man was attacked with violent symptoms of cholera, at two o'clock in the morning, and sunk at ten, eight hours, consequently, from the invasion of the disease. On post mortem examination, our principal remark was, the large quantity of *albuminous matter* in the small intestines. The stomach was greatly contracted."

The following case is likewise abstracted, from the same publication of Mr. Thackrah. It is from the report, furnished him, by his friend Mr. Naylor, of Bally Car, and the following is an epitome of the symptoms—"The patient was a female twenty-five years of age, taken ill at 2 A. M., and was seen at 9. The countenance pale, respiration feeble, pulse 110 and weak, the legs cold, and occasionally affected with cramp, the sickness, vomiting, purging, and pain in the stomach and bowels, unabated. The matter last vomited, was copious, consisting of mucous fluid, containing flocculent matter of a greenish tinge, the motion was scanty, but no fœcal smell could be perceived. She had made no water till now, when a quantity of limpid urine was passed. At 2 P. M., the symptoms were unabated; the forehead was cold and damp; the eyes sunk, and surrounded with a dark circle, the lips livid, the tongue a little furred, moist and *cold*, the hands

pale and *shrunk*. The least raising of the head, from the pillow, occasioned sickness and vomiting. The cramp increased in frequency and force, the pulse 130, and hardly perceptible at the wrist, and about six ounces of inky blood were with difficulty obtained from the arm."—She recovered.

These very instructive cases, and there are others, in the same valuable pamphlet, are followed, by some excellent observations; so appropriate to the present subject, that it would be an act of injustice, not to transcribe them, in the words of Mr. Thackrah, who observes—"This aggravated character, we can only, in the present state of our knowledge, ascribe to peculiar, and obscure modifications of atmosphere, to predisposition, or circumstance. In what does it differ, from the malignant cholera, the spasmodic cholera of India? I believe in none. I do not, of course, mean to assert, that the cases to which I refer, are accordant in every particular, either with those in India, or with each other. But I contend, that the signs, which are considered to characterize the Indian cholera, are found in a marked and decided degree, in the cases just stated. Thus, we have the peculiar character of the evacuations—the sudden, and great prostration of strength—the extraordinary reduction of pulse—the shrunk and purple countenance—the loss of voice—the purple, or pale, contracted state of the extremities—and death sometimes in a few hours. I conceive, therefore, that no fair reasoner can refuse to admit the identity of the disease * * *. Could an Indian army, however, with its train of followers—enfeebled, debauched, and fatigued, deficient in protection from the weather, deficient especially, in nourishing food—have been encamped in England in 1825, we should have be-

held, I conceive, the most appalling form of the disease."

These references to the epidemic cholera of 1825, are so important, that any comment would be unnecessary. If similarity of symptoms are to guide us, in our diagnosis, there surely could be no difficulty, in the present instance. Undoubtedly, the fatal terminations were not so numerous, as in the more recent complaint; but the same applies to all diseases, especially to those of an acute kind; which one year may be mild, another more severe and fatal; but still they are the same complaint. Confirmatory of the observations of Mr. Thackrah, it may be mentioned, on the authority of a surgeon, in one of the regiments of guards, that in Dublin, about the same season, and also later, many cases of cholera were observed at that station, some of which were marked by the most severe symptoms; quite analogous to those more recently seen in the metropolis; and if other practitioners, were to recal to their recollection, the symptoms and phenomena of former epidemics, perhaps, still farther and equally useful information, on this important point, might be obtained.

CHAPTER XIV.

ON THE SWEATING SICKNESS.

ALTHOUGH not absolutely connected, with the inquiry, relative to the disease, now occupying attention; it will not be altogether unprofitable, if reference be shortly made, to a malady, whose appearance, and ravages, in ancient times, created the greatest terror and alarm

throughout England, and likewise on the Continent; namely, the *sudor Anglicanus*, or the *ephemera sudatoria epidemica*. Considerable obscurity, certainly envelopes the investigation of this complaint; but those anxious to be more fully informed, than the present cursory observations, will enable them to be, on a subject so obscure; may consult amongst the ancient authors, Schenkius, Caius, Willis, Sennertius, and Fracastorius; some of whom indeed speak from actual experience. Occasionally, it has been surmised, there might be some similarity, betwixt this ancient, and the more recent epidemic visitation; but this appears to be, a very gratuitous assumption, as may be ascertained, by comparing the symptoms, and phenomena, of the two diseases.

Several modern authors, besides the ancient above-mentioned, might be quoted, on this subject, but it will be sufficient, for the present purpose, to give in the first place, the following account of the Sweating Sickness, from Rees's Cyclopaedia; as being fuller, and more precise, than is contained in any other publication. In this work, it is stated, "The invasion of the disease, was extremely sudden, and marked by the affection of some particular part, producing the sensation of intense heat, extending through the limb, and afterwards, diffusing itself through the body. This was generally followed by profuse sweating, which continued more or less, through the whole course of the disease, and was attended with insatiable thirst. Extreme restlessness, headach, delirium, nausea, cardialgia, and an irresistible tendency to sleep, characterized its progress; together with great prostration of strength, producing frequent fainting, and irregularity in the action of the heart, which sometimes palpitated violently, whilst at

other times, the pulse was weak, and fluttering. In this way, the patient was carried off, frequently in one, two, or three hours, after the eruption of the sweat. Those more especially, who bore their sufferings with impatience, or who sought relief from the *sense* of heat, by which they were tormented, by exposing their bodies to the air, or even by putting their arms out of bed, were often suddenly struck by death. The sweat when promoted, is represented as being unusually clammy, and having a very strong, and peculiarly fœtid odour. The violence of the attack, was over in fifteen hours; but the patient was not out of danger, till the expiration of twenty-four hours."

The sweating sickness appeared always in summer, and it continued from three to five months. The most general opinion at the time, certainly appears to have been, that it arose from some peculiar state of the atmosphere, and was propagated by contagion.

In the description which Weirus has given of the epidemick, as it appeared in Germany, he remarks, "it seems to have commenced, with a violent cold stage, and shivering, which continued half an hour or more, accompanied with great pain in the region of the diaphragm, and groin;" and other symptoms already mentioned, as characterizing the disease when observed in England. Swelling and stiffness of the hands and feet, at the beginning of the attack, and vomiting of black blood, or bile, are also noticed by this author, particularly.

Burserius, in his classical work, already quoted on a former occasion, *viz.* the "*Institutionum Medicinæ Practicæ*," makes some valuable observations, regarding this disease, and remarks, "It begins with great prostration of strength, and deliquium. Sometimes

severe tremor, and convulsive horror, precede, then a sour kind of perspiration, breaks out on the skin, which by and by, is converted into a profuse, and continued sweat, that does not cease, till life is extinct; an event usually occurring, within twenty-four hours. Generally, there is felt an unusual heat of the internal parts, followed by a burning sensation; the thirst is insatiable, whilst the patient seems affected, with a feeling of great fear, and despair; he has oppressive anxiety at the præcordia, with some cardialgic sickness of the stomach; and there is pain in the loins. Occasionally, cephalalgia supervenes, with palpitation of the heart. About the seventh hour, from the first attack of this disease, all these symptoms increase in violence; then delirium appears, great prostration of strength, nay rather, extinction (“*exsolutio*”) of the whole vital powers, with the most profound sleep.” At the end of fifteen hours, the disease usually attained its greatest intensity; and Burserius describes it, as most frequently attacking the robust and healthy, often sparing children, old people, and the poor; but almost all the other classes of society, he states, it seized, and many of them were in consequence exterminated.

Other authors describe the sweating sickness, as attacking with a pain in the neck, arms, scapula, or legs, and sometimes a kind of warm vapour or flatulence only, ran through these parts, succeeded by a profuse sweat; for which the patients could not account. The internal parts next became warm, and were seized with an incredible heat, which afterwards, diffused itself to the extremities. An intolerable thirst, restlessness, and sickness, were the next symptoms; to these succeeded headach, delirium, excessive debility, a kind of

extenuation of the body, and an irresistible necessity of sleeping. The sweat was of a disagreeable smell, coloured, and it is said, of an unusual consistence. Some of the sufferers were seized with nausea, others with vomiting, and all with difficulty of breathing. The urine was of a thicker consistence, and fainter colour than natural. The pulse was somewhat quicker, than is commonly observed; and it may be added, those individuals endued with strong constitutions, breathed a pure air, and who were otherwise favourably situated, often escaped the effects of this direful pestilence.

According to historians, this disease first appeared in England, at Milford Haven in Wales, when Henry the Seventh landed there, with his army in 1483. Some say it then also extended to London, but others think, it did not break out in the metropolis, till the 22d of September 1485; when it certainly appeared with extreme violence. It only prevailed about a month in London, having stopt all at once, according to Caius, towards the end of October. The mortality occasioned by this visitation, was very great; some authors say, so high as in a short time, to sweep off one-third of the whole population. The disease again prevailed, in 1506, 1517, and likewise, in 1528; when it was sometimes fatal, in the very short space of three hours. In 1529, the epidemick reappeared, when the king himself, Henry the Eighth, narrowly escaped. But many of the nobility suffered. The last visitation, being the fifth, of this pestilence, occurred in 1551, when its fatality was, like the others, extreme. Since then, nothing farther is said of the complaint; and although the records describing its symptoms, progress, and effects,

are very imperfect, there is yet sufficient evidence supplied to show, the sweating sickness could not be considered, as similar to the present epidemic cholera.

The principal marks of distinction in these two complaints, besides the symptoms, are the class of people the sweating sickness attacked; being the higher and middle ranks of society; the robust and the healthy; whilst the poor, the old, and the infirm, the almost exclusive victims of cholera, were more likely to escape. The *sudor Anglicanus* would appear, to have been a disease of an inflammatory character; since most of the patients it attacked, complained of an unusual heat of the internal parts, followed by a hot burning sensation, over the body; with a most insatiable thirst. This, with great pain of the head and delirium, would place the nature of the disease beyond a doubt; as it exhibits a diathesis, the very reverse of that generally shown by the modern epidemick, the former being that of inflammation.

Occasionally, an opinion having been expressed, relative to the likelihood there might be, of some similarity existing betwixt the sweating sickness, and the cholera, was considered to be a sufficient reason, for making this short reference to the subject; which it is believed, has satisfactorily demonstrated, the instability of the theory, and has shown, the two diseases to differ, not only in their symptoms, but to attack individuals, having very opposite constitutions, to those now the peculiar victims, of the more modern prevailing complaint.

CHAPTER XV.

THE QUESTION, REGARDING THE RECENT ORIGIN,
AND NEW CHARACTER OF CHOLERA, EXAMINED.

WHETHER the cholera recently prevalent in England, be identical with the epidemic disease, common in India, has prominently occupied attention ; and like the question of contagion, it has also given occasion, to considerable discussion. Judging from what is observed in all other diseases, it must readily be admitted, that the cholera of the East, and of this country, is, nosologically considered, the same disease. As much so, as the ague of Lincolnshire, of the Pontine Marshes, and of the banks of the Nile, is essentially a similar complaint ; varied, undoubtedly, by peculiarity of climate, by local circumstances, and the constitutions and habits, of the people affected. Still none can deny, but it is the same kind of intermittent fever. To suppose, however, that the cholera of India will be transported to this country, unchanged in every feature, or will spread as extensively, appears doubtful ; with our present knowledge, and before such a proposition can be fully admitted, more facts and proofs must yet be produced, in support of the doctrine. As well, as once observed a physician, might we expect pine apples to grow in this country, more plentifully than cabbages.

It would be presumptuous in any individual, to allude to the opportunities he may have possessed, of seeing disease ; but after carefully comparing the history and symptoms, of those which have been visited, or were

described by others; there appears no convincing argument, that the complaint lately occurring, is altogether an unknown one in this country; and in this opinion, some of those practitioners most conversant with the epidemics of London coincide. The disease would appear to be, either a most aggravated form of pestilent fever, in which the cold stage is so overpowering, as even to kill the person affected, at its very first attack; or it must be called the English cholera, whose cold stage is much more sudden and fatal, than is in most years, or in modern times, observed.

The question has been repeatedly asked, and apparently, with some degree of triumph, of those maintaining the doctrine, that the disease now prevalent, is only an aggravated, and more fatal form of the complaint, well known under the name of the English *cholera*: if in any other epidemick, with which medical men are familiar in this country, it ever happens, that a patient will in some years fall a sacrifice, at the first onset of the disease, whilst in other seasons, the type of the same complaint assumes a more mild form, and seldom, or ever proves fatal? In answer to this question, usually considered, by the bye, as a leading one, and upon which much of the argument is thought to hinge; it can be replied, although agree, unlike what it appears in hot climates, where it is frequently rapidly destructive, is very seldom fatal, at its commencement in this country, instances do yet occasionally happen, where the cold stage is so overwhelming, that the patient even dies in the very first attack. Of this, examples are mentioned in the older authors, and two patients occurred to a physician whilst practising in Lincolnshire: both of whom died in the first, or cold stage of an ague, one of these, indeed, in his own presence.

But surely, no one would contend, because these individuals expired at the first onset, that the disease was therefore a new species of ague. And if this occurs in intermittent fever, the same variety may also happen in the cholera of this country; as it will not be denied, that epidemics of essentially the same character, may occasionally be accompanied, in different years, even in the same country, by a variety in its form, and symptoms.

The same modification of phenomena, is often likewise remarked, in other epidemics; such as in the typhus fever of Great Britain. One year it is mild, and easily treated, in another, the disease is most rapid in its course, very fatal in the result, and attended with unusual symptoms, as by petechial spots, hæmorrhages from the bowels, or the like severe accompanying appearances; nevertheless, the disease is typhus. And if the accurate description of fever, given by Sydenham, be compared with those which have recently, or previously occurred; there will be observed a variety in the type; although the affection be considered by nosologists, as belonging to the same class of diseases. Similar reasoning equally applies to cholera; one year, or for a series, it is mild; at another period, the malady is frequent, and most fatal, depending like other epidemics, upon causes sometimes, it must be acknowledged, difficult to explain.

Considerable importance has been attached to the subject of blueness of the skin, as constituting a pathognomonic, and perhaps, one of the most characteristic symptoms of the disease. Too great stress, has all along been attached, to the presence of this formidable feature, so much, that its very mention, has sometimes caused the greatest dismay. However, if the blueness

be taken as a proof of similarity, to the disease of India, great misapprehension, on that head, seems to exist; and in confirmation of this opinion, reference may with confidence be made, to the excellent remarks on cholera, published by Dr. Mouat in the fourth volume of the Transactions of the Medical Society of Calcutta. In this paper, when speaking generally of the disease, the author certainly notices the symptoms, of a dark blue tongue, and blue nails, as sometimes occurring in this disease; but although, the particulars occurring in one hundred and thirty-two cases, of spasmodic cholera, are minutely detailed, not in natives, it should be observed, but in the soldiers of an European corps, *viz.* his Majesty's 14th regiment of foot: yet in all these patients, not one during the epidemick, is stated to have shown this much-talked-of blueness. It therefore cannot be considered, as constituting a constant symptom in Asia. But besides this, as great a variety is also observed, in some of the premonitory symptoms, and in the subsequent fever. Thus in India, diarrhœa is said seldom to precede the cholera; in Russia and in this country, it generally appeared some days before. In India again, they have seldom any fever; on the contrary, in Great Britain, most commonly, a severe secondary fever follows, before convalescence. Showing, as in the symptom of blueness, that a marked difference may occur in diseases of the two countries; whilst it demonstrates, the small reliance we ought to place on conclusions, drawn from proofs like these, of invariable identity.

It has been said, the disease appeared for the first time in the metropolis, in February last; but ample proofs, have been publicly brought forward, to demonstrate the most marked identity in the symptoms, ob-

served in many of the cases occurring lately in London, and reported to be genuine spasmodic cholera, with other patients affected, in the month of August previous. Nothing could apparently be more convincing, than these cases to disprove any recent origin of the disease, in the metropolis. And apparently, the same conclusion, is amply supported, by the similarity of the symptoms observed, in the frequently mentioned cases, of the soldier Webb, occurring in Westminster last summer, and that of the tailor taken to St. James's Infirmary, in the month of November. How the advocates for a new, and recently imported disease, can get over the marked identity of the symptoms, observed in these two patients, it is difficult to understand.

Reference might also be made to fatal cases, occurring in former years, even amongst the upper classes of society; such for instance, as that of the late Mr. Baron Hullock, at Abingdon, when there on the circuit. Sir John had attended church, along with his brother judge, on Sunday the 27th July, 1829, in apparently excellent health; he went to bed as usual, but in the night he experienced a violent attack of cholera morbus, and after great sufferings, he expired early in the morning of the 31st. These circumstances were thus reported in the newspapers of the day; and other individuals, even in the highest rank, might be mentioned, who have fallen a sacrifice to the disease; but to do this now, would be unnecessary. By a few physicians, it has been attempted to argue, that neither similarity of symptoms during life, nor post mortem examinations, prove any thing conclusively, as regards novelty, or identity in the modern, the ordinary, or ancient epidemics; but there is acting a something, it is said, not easily described, sufficient however to explain the whole

difficulty. With such reasoning, it is impossible to grapple; and those employing this mode of explanation, can only be left to the cogitation of their own favourite hypothesis, as with their opponents, it would be hopeless, to expect any approximation.

The cholera of temperate climates is ordinarily, but a milder form of the same disease, and with a lesser degree of intensity, than the Indian. Accordingly, the former variety, is usually found to be marked, by a highly increased action of the biliary organ; whilst the latter again is indicated, by a total cessation of the same function. And the more action there is exhibited, so will the accompanying danger be diminished; whilst any cessation, or interruption to vital action, is on the other hand, considered unfavourable.

Considering the cholera of India, and of this climate, are identically the same disease, although differing in degree; much in the same way as fever, small-pox, and measles, are essentially the same complaint, whether occurring on the banks of the Thames, or the Ganges; we now come to the question, regarding the new features exhibited, by the lately prevalent epidemick, and this point requires to be minutely examined; accordingly, during this rather tedious, but important discussion, the evidence brought forward in previous chapters, as likewise other collateral circumstances, must be constantly kept in remembrance, in order to guide the judgment, and if possible, to instruct the mind, in coming to a correct conclusion.

Many authors believe, previous to the 17th of August, 1817, the true spasmodic cholera, had never prevailed in India. But leaving this question, as before stated, to be settled by Indian physicians, having however first entered, a most decided protest against its correctness;

the point more immediately under consideration, is the recent origin of cholera in Europe; and here, as in some degree illustrating that question, and even likewise, in reference to cholera in India, a quotation may be made, from Dr. Hennens's work, on the Medical Topography of the Mediterranean. When describing the diseases of the island of Cephalonia, this author observes, at page 286—"Cholera morbus appears to have been severe in degree, though not extensively spread, in the year 1817; for of four persons attacked, three died. In 1815, 16, 18, and 19, it was unknown. * * * In 1818, and 19, when cholera morbus was unknown, cholica was very prevalent." From this quotation, not only the existence of the disease in Europe, is proved, at the very time, it is reported to have first broken out at Jessore, but it shows, three in four died; and the expression, "it was unknown in 1815," would seem to indicate, the complaint had previously prevailed.

Regarding the antiquity of cholera, and whether this disease, was ever seen on the continent of Europe, previous to the late eruption in Russia; the evidence of Burserius, Richter, and of Frank, will surely carry great weight, in enabling us to decide the latter point; whilst Celsus and Aretæus, must guide those coming to any conclusion, on the former. But in order to be able to compare the modern, with those ancient descriptions of this disease; the subjoined detail of symptoms, lately published by authority of government, should be kept constantly in remembrance, when considering the two complaints. It should likewise be recollected, that, "Looseness of the bowels is the beginning of cholera." The symptoms promulgated, for a guidance to the medical practitioners of England, in deciding

upon the existence of a case of spasmodic cholera, or of a disease *anywise* resembling the same, were “A purging and vomiting of fluids neither feculent nor bilious, with cramps and prostration, to which, in extreme cases, are added a coldness, and shrinking, and lividity of the surface, particularly of the extremities; with suspended pulsation at the wrist, and suppression of urine.”

Looking back on the references already detailed, we find Celsus distinctly mentions watery evacuations, both upwards and downwards; he certainly does not employ the term, rice-water evacuations, but they were, he says, *white*; and the patients often died suddenly. Aretæus is more minute, in his description, and besides speaking of watery evacuations, he says, the patients were powerless, and struck as if with consternation; whilst he remarks, the nails were livid, the urine suppressed, and the voice was gone. In short, the description in this ancient author, is almost similar in every particular, with the more modern account of this disease.

Torti and Burserius, when speaking of the cholera of their day, would seem to be contemplating a perfectly similar complaint. And the expression of Burserius, that it was sometimes so rapid in its course, as to kill even in a few hours (“*paucos dies, imo horas sæpe enecat*”), must show, that the ancient disease, was quite as rapidly fatal, as the modern has ever been observed.

Richter mentions the sunk countenance, the imperceptible pulse, convulsions and coldness of the extremities, with a cold clammy sweat; besides these symptoms, the blueness of the nails, hiccup, and the graphic word frightful (*fürchterlich*), which he uses, must

appear both remarkable, and convincing. Again, the description of the cholera, formerly known to Frank, is even more resemblant to the modern epidemick, than that given by Richter. Frank alludes to the raucous voice, and many other symptoms, perfectly identical to those recently observed; and besides he states, the fatal termination was often so sudden, that the friends of the victims, considered them to have been poisoned; whilst their features were so collapsed, and their appearance altered, they were no longer like themselves.

But the most important question, yet remains to be examined; namely, that regarding the occurrence of cholera in Great Britain, during former years. If similarity of symptoms, or the fatal extent of former epidemics are to be considered guides, or taken as any criterion, the doubts must then, be soon solved. And on this subject, the works of Sydenham and of Morton, amongst the early English writers, furnish ample proofs; whilst Jackson and Thackrah amongst the moderns, may on the other hand, be referred to, with equal confidence.

The extreme frequency, and the great number of deaths, caused by the cholera morbus of 1669, are very remarkable circumstances; and however prevalent the disease was in the autumn of that year, nevertheless, comparatively speaking, as many deaths occurred in the same season, as by the complaint lately common, in many parts of the empire. At the period now alluded to, London was not much more, than a third the size, of the present metropolis; notwithstanding this circumstance, and the acknowledged frequency of the disease during the autumn, we find, four hundred and fifty-two deaths from cholera are reported, to have occurred, during the three months, ending the 3d of May,

1669. Suppose this number multiplied, to answer the increased ratio of inhabitants, by three, it would make one thousand three hundred and fifty-six, which ought to be the deaths for the present year, had the epidemick mentioned by Sydenham prevailed. And it is a very remarkable coincidence, the exact number of deaths, in the metropolis, including Mary-le-bone, and even the neighbouring villages, such as Brentford, &c., not comprehended within the old bills of mortality, amounts to one thousand three hundred and forty-five, from its first appearance, early in February last, to the 1st of May; or eleven less, according to the above calculation. The mortality of the metropolis, notwithstanding many assertions to the contrary, has therefore not exceeded the ratio of the disease, at the time of Sydenham. During the autumn, was undoubtedly the period of the year, when the ancient cholera morbus was most fatal, and in the first week of September, 1669, three hundred and eighteen died of this complaint; but this is nearly the same effect, as observed in many other countries; where the modern epidemick often broke out in autumn, or was most fatal and prevalent, at that season.

This coincidence in the rate of mortality, conjoined to the symptoms described by Sydenham, bears a marked resemblance to the phenomena lately observed. This author's remarks, regarding the discharge of *vitiating* humours, by vomiting and purging, the coldness of the extremities, and other like symptoms, which frightened the attendants, is the same as noticed at the present day. Some physicians are however disposed to think, the absence of blueness of the skin, and there being no notice taken, of rice-water evacuations, point out a marked difference. But supposing it were even allowed all the force, the most strenuous advocates would wish

to give to this argument, more specious than important ; there cannot be any doubt on the subject, after the cases reported by Morton are attentively considered ; to say nothing of this author's accurate general description.

Suppose the case of Mr. Amblar, of Mile-End, had occurred during the present year, instead of in 1690 ; every person would readily have allowed it to be, a most violently marked specimen, of the spasmodic, or Asiatic cholera. The dark colour of the skin, the whitish cream-looking liquid evacuated, the hippocratic countenance, the coldness of the skin, and the rapid approach of death, are all of a similar character. Nor can the expression, the patient vomited variously coloured bile, be considered as militating against this opinion, since, the same circumstance sometimes attends, at the commencement of more recent cases.

The quotations from Wintringham, Buchan, and Jackson, all tend to confirm the opinion, regarding the antiquity of this disease ; and the admirable account of the epidemick, at Leeds, in 1825, published by Mr. Thackrah, will show the justice of this conclusion. For should it be still asserted, the disease was only a severe form of English cholera, it matters very little to the community, by what name a disease is called, where the effects are similar. And to the physician, if the symptoms are the same, the course of the disease alike, and equally fatal results follow ; how any other, or a theoretical distinction can be assumed, as a guide to point out the difference, betwixt two epidemics, requires, if not more ingenuity, at least more faith than ordinary.

English cholera, some feel disposed to consider, as quite a different disease, to the complaint more recently prevalent ; and which in order to be distinguished, has

been called the Asiatic. Undoubtedly, the ordinary cholera of this country, is usually, although sometimes neither mild in the symptoms, nor slow in its progress, seldom followed by a fatal termination; but this is not always the case, as has already been clearly demonstrated. The personal experience of some physicians, might be appealed to, in support of the opinion, that the cholera is not a new disease; since they aver, the symptoms now exhibited, are the same as were observed before, excepting in their less frequent intensity, compared with the greater number of individuals now affected. But the same peculiarity attends all diseases. Take for example the intermittent fever, which seldom had been seen in the metropolis, for a series of years, till the early part of the summer of 1829, when ague became exceedingly prevalent; so that, physicians who had practised for years in London, then saw a case of, to them certainly, a new disease; but not however unknown, in nosology.

Illustrative of the point, that increased frequency, augmented severity of symptoms, or a more than ordinary number of deaths, do not constitute a difference in any disease hitherto prevalent, reference may be made, to what occurred at Malta in 1824. In this island, apoplexy is of rare appearance; at least, the deaths from such a cause, attracted hitherto very little attention, till the month of January, of the above year; when the governor Sir Thomas Maitland, died suddenly of this disease on the 17th, being the first victim of the epidemick; then others followed, and so common did this complaint afterwards become, during the latter part of the month of January, and nearly the whole of February, that eight or nine people were almost daily carried off, in the town of Valetta; workmen at their

ordinary employment dropped down, and died suddenly ; besides many people in the upper ranks of society, English as likewise Maltese. And to such an extent, did these fatal occurrences proceed, that a panic was almost created in the island. The same phenomena were observed at Naples, at this period of the year, but there little attention was excited. However neither since, or previously, had a similar epidemic apoplexy prevailed in Malta, and no one considered it, either a new disease, or contagious.

During the spring and summer of last year, the cholera was exceedingly prevalent in Essex, in the neighbourhood of Tilbury Fort. Indeed, the complaint so commonly prevailed amongst the poor, that Mr. Robertson, of Ossett, a respectable surgeon, having charge of the poor of that, and the four adjoining parishes, of Horndon, Bulpham, Stifford, and Mucking, treated about three hundred cases, and some with most severe symptoms. Mr. Robertson's son, now acting as apothecary at the Chelsea Dispensary, likewise attended most of these patients in Essex ; and since his residence in town, the same gentleman has visited, many of the recently reported cases of cholera in London ; and he is of opinion, the symptoms were in every particular, the same, as those he and his father had attended ; hence the two epidemics must be considered perfectly identical.

Because the cholera of England usually appears in autumn ; should it ever become epidemic, in the winter or the spring, then truly, say those advocating recent origin, it must be a new disease. If applicable to cholera, this logic should be equally so, to other diseases ; but such is not always the case, even in complaints, considered peculiar to certain seasons ; as for

instance, in the plague, which every one knows, almost invariably occurred in August and September. But like the cholera, there are exceptions to this general rule. Thus the plague broke out in London at Christmas, 1664, whilst there was a continued frost all throughout the season. Again, the plague first appeared at Stockholm, in the winter of 1708. And Dr. J. Pringle mentions, the plague commenced in Dantzic, in 1709, during the winter time; when every thing was bound up with a severe frost. In Venice, the plague of 1348, or cholera morbus, as some authors think, began in the month of March, and attained its greatest severity in April. Consequently, although a disease may appear, at an unusual season of the year, this peculiarity cannot alone warrant the conclusion, of its being an entirely new complaint; any more, than it would have justified, the application of a similar mode of reasoning to the plague; which being generally most prevalent and fatal, when the heat of the weather, is at the highest elevation, is sometimes however thereby diminished; as occurred in the plague at Marseilles, where the intense heat of July, seemed to have a contrary, and favourable influence.

Considerable importance has been attached, to the absence of bile in the matters evacuated; which being different, to the descriptions of ancient epidemics, and likewise, to what is generally observed, in the common cholera of this country, this is therefore said, to be a pathognomonic distinction. But even in many of the lately prevalent cases, bile was first evacuated; and it was only, after all the ordinary contents of the stomach and bowels, were got rid of, that this peculiar appearance was observed. This phenomenon may be considered to arise, principally, if not wholly, from the vio-

lence of the symptoms, and their continuance, along with the spasms, which in many cases were present, and which, in an especial manner, are supposed to be one cause, why the secretion of bile is interrupted.

Several examples of the disease, as exhibited in London, appeared to assume in some degree, the character given of the fever described by Torti. There were certainly no distinct remissions, or shivering; but in a few instances, when attention was particularly directed to the point, the disease seemed to undergo alternations, in the violence of the symptoms; and it was frequently remarked, wherever a return of the collapse took place after reaction, then, the accompanying phenomena, were of the most intense form, and the patient was under greater danger, than at the first attack. Relapses were very frequently fatal, and old or debilitated subjects, could seldom bear up, against their severity.

Apparently with some justice, fault has been found, with the term cholera; as applied to the train of symptoms, indicating cases of the late epidemick. The appellation has certainly, in some degree been unfortunate, as it has occasioned, from the name alone, considerable difference of opinion, not altogether in regard to the nature of the disease, but about the name employed; some physicians thinking, the complaint approached more to the character of a fever, than to that of cholera. Undoubtedly differences very frequently arise in opinion, from the various meanings attached to the same word, where even the disease itself, thus indicated, is considered to be identical. This has been in some degree, the case in regard to cholera, which according to the views of some physicians, ought to have been called, a pestilent or choleric fever, and not by the name of spasmodic, or Asiatic cholera morbus.

Undoubtedly, many of the cases lately observed, neither had spasms, discoloration of the surface, nor any thing approaching to blueness. In some, there were no violent dejections, nor vomiting, and bile was observed in the evacuations; whilst the symptoms exhibited in others, were unequivocally those of fever. After reaction has commenced, there is little difference of opinion, regarding the type of the disease then observed; since all are nearly agreed, in considering the case to be, one of fever, although of a very malignant kind. The collapse, so remarkable in appearance, and even so overpowering to the feelings, when described, is the peculiar feature in the worst kind of cases, attracting the greatest attention, and considered to be one of the principal proofs of novelty.

The symptoms attending this period of the disease, bear a very marked resemblance to the cold stage of a malignant ague; the appearance of the countenance, the state of the pulse, the congestion of the large internal veins, the diminution of the heat of the body, the shrinking of the skin, the suppressed secretion of urine, and the blueness or dark colour of the surface; all occasionally attend although generally in a less degree, the paroxysm of an intermittent fever. Whilst again, the phenomena distinguishing the stage of reaction, are likewise equally striking, and similar. In ordinary cases of fever, the cold stage is generally very slight; and in ague, however severe in appearance, the disease is seldom attended with danger, in northern climates; but in the cold stage, or collapse of cholera, as lately observed, the symptoms are often so overwhelming, that the patient sinks in the first attack.

In ordinary epidemic cholera, the stage of collapse, has not lately been particularly marked; and bile also

generally appeared in the evacuations ; but because these, or even other varieties in the symptoms, may now appear, differing in degree, to those lately accompanying most cases of cholera, it cannot therefore be declared, to be an entirely new disease ; since, upon such principles, every other malady must be new, if there exists any variety whatever, in the symptoms. Even inflammation in the lungs, would in this way be classed, as quite a different complaint, should any anomalous symptoms appear ; or if any change takes place in the course of the disease, from what is usually observed. The same principles must guide us in fever, measles, small-pox, and indeed in most acute diseases ; thus leading to conclusions totally untenable.

In a previous chapter, particular allusion was made to the great influence, the easterly winds have in the production of cholera. Every person must remember, the extreme prevalence of those winds, during the last two or three years ; even when the greatest heats of summer existed, whereby the human body felt cold in the shade, whilst in the sun, the warmth was sometimes excessive. But these winds were not peculiar, to summer and autumn, but they also prevailed, in the cold season ; and the spring of 1831, was even more remarkable for this direction of the winds, than the season just elapsed. The existence of the disease, nay, its first appearance in the metropolis, seemed to have been materially influenced, by the easterly winds ; and in Paris, the same phenomena have likewise been observed ; whilst in Gateshead, in addition to the excesses of Christmas, the wind changed that day, from a comparatively mild, to a cold wind from the north and east ; which, along with the drunkenness and debauchery, caused that very night, the sudden and almost instan-

taneous appearance of fifty-five cases in the town, of whom thirty-three died next day, notwithstanding the cholera did not exist before in Gateshead ; with the exception of perhaps one case, but that is even doubtful.

The class of people, the epidemick has almost invariably attacked, and the local situations, where it has prevailed, are peculiarities both remarkable, and instructive. The very lowest of the community, the worst fed, the badly clothed, the debauched, and the infirm, have been most usually the victims ; especially, when living in low, damp, and confined habitations. In London, a great proportion of those, attacked with the disease, were labouring Irish, unfortunately, so poor and miserable, that many of them lived on tea and potatoes, and some even had scarcely so much, as this inadequate nourishment. Contrasted with this fact, it should be known, very few of the well fed, or stout and healthy part of the population, of the metropolis, sunk under its influence. The localities the disease chiefly affects, the banks of rivers, and low damp situations, where miasmata are known always to prevail ; will in addition to the above causes, materially assist in producing the phenomena ; none of which are novel, but only appearing in a more intense degree, than ordinary.

If the rate of mortality be taken as a criterion of novelty, here again, history brings a strong contradiction. Unquestionably, the account of symptoms of ancient epidemics, is very indistinct ; and all are usually included under the general name of plague. For whenever any disease was unusually prevalent, or fatal, it then became a plague ; as for instance, even the cholera of Sydenham was called, a plague in the guts : and here it may be observed, should the same malady now

extend itself, in the ratio of the population of modern London, as it did in 1669, upwards of 13,000 would fall victims.

Already, it has been mentioned, many of the ancient epidemics, or plagues, as they were usually designated, proved exceedingly fatal ; as the plague, or cholera which broke out in London, in November 1348, and continued the following year. This disease, like the late one, even in the winter, was most destructive ; and in the records of that age we find, from the 1st of January, to the 1st of July, 1349, 57,374 died of it in the metropolis. Again, in 1379, the north of England, was almost depopulated, and rendered desolate, by a disease, called likewise a plague, whilst in 1632, the deaths from plague in London, amounted to 36,000. But the greatest mortality by any disease, ever witnessed, was the pestilence, which prevailed at Naples in 1656 ; whereby, in one day 25,000 persons, out of a population of certainly not more than 300,000, were destroyed. Therefore, if the magnitude of mortality, be taken as any criterion of a new disease, the cholera about which so much has been said, falls short of these, and of other pestilential visitations, which might likewise be mentioned.

Before however leaving the subject of pestilential diseases, appearing in London, it may be stated, as in some degree illustrative of the localities, most subject to severe epidemics ; that in the plague of 1665, whereby so many died in the metropolis, the number of deaths from this disease, reported to have taken place, on the Southwark side of the Thames, amounted to 11,176, although then very thinly inhabited, compared to its present extent ; in fact there occurred here, one-sixth of the total deaths, when perhaps, the population did

not approach one-twelfth. Indicative also, of the well-known peculiarity, that the appearance of an epidemical disease, influences or prevents the existence of another; it may be stated, that in 1669, known for distinction, as the great cholera year, only three deaths by plague are reported; but all were on the Surrey side of the Thames. In 1670, during which year, 3,690 died of cholera, no death from plague occurred. In 1677, there were only two deaths in London, by plague, and they both took place in Rotherhithe. In 1678, there were five deaths, four of which were likewise in Rotherhithe; and when the plague totally disappeared; the last deaths ever reported, to have occurred in the metropolis, from this malady, happened in the same parish of Rotherhithe; from whence, two deaths are reported; thus showing, that Southwark was always an unhealthy situation.

Frequent allusion having been made, to the cholera of Sydenham, it will be perhaps useful, and may clear up any doubts still existing, to subjoin a general summary of the rate of mortality, thereby occasioned in the metropolis, for a series of years. This will likewise demonstrate, the changes taking place in a disease, at one time most prevalent, but which at another, was almost unknown. And if such formerly occurred, the same phenomena may be at another period exhibited. This knowledge is easily obtained, by referring to the bills of mortality, from whence, the following appears to be the number of burials reported, under the head of griping, or as it was more anciently called, plague in the guts, at the era mentioned.

Year.	Burials.	Year.	Burials.
1655	313	1676	3321
1657	446	1678	3150
1662	835	1679	2996
1665	1288	1680	3271
1667	2108	1681	2827
1668	2415	1683	2438
1669	4385	1708	1687
1670	3690	1737	64
1671	2537	1758	50

The complaint now spoken of, was by the above table, so exceedingly prevalent, at the end of the seventeenth century, within the bills of mortality, and it is likewise supposed to have been the same throughout England; that for a period of twenty-five years, *viz.* from 1667 to 1692, the average number of deaths, was never under 2,200 per annum; whilst again, from 1790 to 1800, the average annual number fell so low, as to be only twenty. The cause of so great an alteration must be owing to the improvements, which have gradually taken place, in the manner of living, in cleanliness, and in ventilation. Unfortunately, the poor are always the last, to feel the benefit of these changes; for beyond the necessity of getting their daily bread, this class of society, have comparatively very little care of preserving their lives, or of improving their condition. Similar changes, and quite as remarkable, as those now mentioned, in the ratio of deaths, have been observed in other diseases; as for instance, in measles, which, sometimes have been so mild, that only one in four thousand of the total deaths, within the bills of mortality, were caused by this complaint. Whereas, in other years, it became most prevalent, and proved so fatal, that one in every thirty of the whole deaths, oc-

curring, are from measles. Nevertheless, no one would assert, this disease to be new, because the deaths were so numerous, and beyond all ordinary proportion.

Notwithstanding it is readily admitted, the cholera prevalent of late years in Great Britain, has been a mild disease ; the conclusion does not from thence follow, it will always continue to be as moderate. Suppose the cholera, which appeared so fatally, during the time of Sydenham, had suddenly broke out, in 1759 ; the physicians of that day, in London, might with apparent justice have asserted, the complaint to be entirely unknown ; since, few of them could have much, or perhaps any experience of a similar affection ; seeing that in 1737 only sixty-four patients died of this disease, and in 1758, not more than fifty had occurred. In questions of this magnitude, reference must always be made, to the records of ancient times, for the experience, of yesterday or of to-day, cannot decide. And should any disease assume a degree of fatality, unknown to individuals, or even to the whole medical profession, during a particular period, this does not therefore prove it to be a new complaint.

The cholera of the present year, has a good deal resembled the plague of London, in regard to the situations it has selected. Thus, on the south side of the Thames, a very large proportion both of the cases, and the deaths, have occurred ; whilst the western, more elevated, and better ventilated parts of the metropolis, have been almost comparatively free, excepting St. Giles's and Whitechapel, which, as in the time of the plague, have suffered considerably. In the former situation, it is remarkable, the limited extent of locality, the disease has occupied ; being confined to a very small

neighbourhood, and similar in a great degree, to what is observed in ague districts. Here, the chief seat of the complaint seemed to be in Church Street, and Church Lane abutting upon the former, and constituting the most filthy quarter of St. Giles's, where it is even astonishing, human beings can breathe, much less inhabit. From this locality, out of one hundred and ten patients admitted into the parish cholera hospital, before the 1st of May last, forty-four of them were brought, and of these twenty-six died ; or three in five ; whilst in the total one hundred and ten patients, sixty-three died. At this establishment, several of the nurses were carried off by the disease ; but it should then be remembered, lest contagion is supposed to have existed ; the temporary hospital is situated, within a very short distance of Church Street, not many yards off ; the building itself, is a low wooden one, surrounded on three sides, by considerably higher houses, and without a single opening through them, to allow of free ventilation. The rooms were, for the benefit of the patients, sometimes kept warm, and even oppressive, by the fires ; and the nurses themselves, were usually of the same class, as those brought into the hospital, and exposed, like them, to the same local influences ; besides which, there are very few common sewers in the neighbourhood. In making these remarks, it must not for a moment be supposed, any reflection is attempted to be thrown upon the medical, or other officers of this establishment ; on the contrary, great praise is due, for their judicious treatment of the disease, and for the excellent register they have kept, of the cases admitted ; and from which, much valuable information may be obtained. It is only to direct attention, to the unfa-

vourable situation of the hospital, as in part explaining, the mortality among the attendants, these observations are made.

Similar peculiarities have likewise been observed, in other parts of the metropolis ; and wherever the population was dense, debilitated in their habits of body, and deprived of the necessaries of life, so was the disease more likely to prevail. Starvation, depravity, and filth, seemed to be the most powerful promoters of the complaint ; whilst cleanliness, ventilation, comfort, and good living appeared the best counteractants.

In the preceding pages, arguments and facts, have been brought forward to show, the epidemick to be governed by nearly the same laws, in its production, as intermittent fever ; and to which disease, there are certainly some points of resemblance. Were a decided opinion to be given, upon some minor questions, an endeavour would likewise be made, to indicate the degree of similarity, the stage of collapse in cholera, exhibits to the cold paroxysm of an ague ; with these differences certainly, in intermittent fever, there are seldom any premonitory symptoms, the fit is not often fatal, and it returns frequently, as well as periodically ; whilst in cholera, there are usually premonitory symptoms, and generally only one cold stage, but which is however, very often fatal ; nevertheless, we still observe some remarkable points of resemblance.

Having, it is believed, satisfactorily shown, the epidemic cholera not to be a new disease, any more, than it is contagious, excepting in the degree of violence the symptoms may exhibit ; in closing this part of the subject, reference might again be made, to the influence particular conditions of the weather may possess, in its production ; and in considering this subject, the changes

in the constitution of the atmosphere, not the travels of the disease, ought to be regarded; for these are the productive causes, not the carriers of the complaint, as many would suppose; and as most diseases undergo modifications, without their essential nature being altered, this principle of course ought to be constantly borne in mind, when cholera is the subject of discussion.

CHAPTER XVI.

MEDICAL TREATMENT OF CHOLERA.

UNFORTUNATELY, however important the treatment of this disease may justly be considered, so little uniformity of practice, has been exhibited by physicians, that confidence in any plan, hitherto recommended, is scarcely entertained. This diversity of opinion, is not confined to one country, or to any particular class of medical practitioners, but wherever the epidemick has yet prevailed, the same variety and almost contradictory views, in the mode of treatment, has been exhibited.

Doubtless, this peculiarity, in many instances, arises from the theoretical opinions entertained, regarding the nature of cholera, and its mode of propagation; as likewise, the conclusion that it is an entirely new disease; thus rendering, all previous experience nearly nugatory. Were both these questions but considered, by the profession, as not to interfere, in directing any mode of treatment, proper to be pursued, then many of the difficulties now existing, might perhaps be removed; and the same general principles, usually guiding physicians, in the employment of remedies, would then be

of advantage. The class of symptoms observed in the patient attacked, the diathesis of the disease itself, the previous history of the case, and other subsidiary questions, should in this, as in every other complaint, guide the physician ; and although, neither the opinion of the disease being new or contagious, ought to influence the mode of treatment, if contrary to these principles or to common sense ; nevertheless, the actual experience of those entertaining such views of contagion, or who think the disease to be hitherto unknown, should not be discarded, but examined and appreciated.

Considering so much uncertainty exists, regarding the mode of treatment, best adapted to the removal of this disease, and seeing, the principal object in the present publication, was the investigation of the questions already discussed ; this part of the subject, will not therefore, be very minutely detailed. However, as it would be improper, to pass over the means best suited, and usually employed, for the cure of this disease, either hurriedly or imperfectly, a general outline of the method to be pursued, ought to be now considered ; to which will be added an epitome of the principles guiding, and the remedies recommended, by a few of those authors, who have written upon the disease ; forming an outline both useful and instructive.

In pursuing the subject of treatment, applicable to cholera, the different stages of the disease, must of course, be kept constantly in remembrance ; since the remedies necessary, and beneficial, during the premonitory symptoms, would not be useful, during the stage of collapse ; nor would the same method of proceeding, be found advantageous, after reaction had commenced. These considerations, will naturally divide the treatment of cholera, into three different methods, each of

which will therefore be separately investigated; and first, the course to be pursued, during the premonitory stage, should be examined.

Assuredly, on no point connected with cholera, has so unanimous an opinion been expressed, as regarding the necessity and importance, of speedily removing the premonitory symptoms, by appropriate remedies. If the disease be taken in its early stage, like all other maladies, the treatment is simple, and very often successful. But if the patient neglects to apply to his physician, until the disease has arrived near its termination; then, as in typhus fever, or in inflammation, little benefit can be expected, as the remedies at this stage, can scarcely be otherwise than useless.

The most usual premonitory symptoms, constituting the first stage of the disease, are, as already expressed, a common diarrhœa, varying in duration, from a few hours, to one or two days; accompanied by great oppression at the chest, with a feeling of anxiety about the præcordia, and collapse of the countenance; whilst the patient appears irritable, complains of giddiness, and the mind seems sometimes dejected. Wherever these phenomena appear, the strictest attention to diet, ought to be immediately instituted. Nothing of an indigestible nature should be taken, the stomach ought never to be overloaded, with great quantities, of even nutritious food; and exposure to cold, to night air, or to any of those predisposing, or exciting causes, alluded to in former chapters, should be carefully avoided.

Amongst the remedies to be employed, chalk mixture, or small doses of opium, with blue pill, and half a grain, or a grain, of ipecacuanha powder, will be found beneficial; and these may sometimes be followed, by a very moderate dose of cold-drawn castor oil in the

morning. Where the symptoms are more urgent, and especially, if there be nausea or sickness, with a tendency to vomit, a mild emetic has been recommended; and in many instances with advantage. Should any improper food have been swallowed, the freeing the stomach of the offending cause, will certainly be advantageous; and for these purposes, a moderate dose of ipecacuanha, followed by warm diluents, is the best remedy. Some have advised mustard, others common salt, but as the ipecacuanha root, has likewise a tendency, to promote the action of the skin, it should be preferred.

As already observed, the treatment of the premonitory symptoms, and of the first stage, is simple, and based upon the same general principles, which would guide the practitioner, under other, and more ordinary circumstances. And after these have been arrested, or removed, tonics, with a more nutritious diet, will be required, to restore the strength of the patient, and likewise, to prevent a recurrence of the same train of symptoms. For the destitute, and the half-starved part, of the population, warm clothing, cleanliness, ventilation, with nutritive food, will be absolutely necessary; and although contagion be not admitted, as propagating the disease, the removal of the sick, as likewise of even the apparently healthy, from the influence of those local causes, which, in the abodes of filth, and wretchedness, are so conducive to the dissemination of the epidemick, would be, where practicable, a most judicious proceeding; as in this way, the poisonous action of these influences, would be in a great degree counteracted.

But it is in the second stage, or that of collapse, wherein judicious and energetic treatment, is of the

utmost importance ; and as no time ought to be lost, the remedies employed, and the measures pursued, for the recovery of the patient, must therefore be both appropriate, and decided. The object being now to produce reaction, so as to overcome the extreme exhaustion, accompanying, or occasioned by what has been justly termed, the cold stage of the disease ; it may be useful, again to enumerate the symptoms, by which this period of the malady is indicated. Frequent vomiting and purging, although, in the very worst cases, these are sometimes even absent ; there is extreme thirst, a burning sensation, with great oppression felt at the præcordia, and urgent cramps ; whilst most of the ordinary secretions are suspended. The surface is remarkably cold and livid, pulse imperceptible, copious cold and clammy sweat ; respiration laborious ; the voice is hoarse, or gone ; and the patient seems oppressed ; or, as it has been said, struck with consternation.

Considering the nature of the symptoms now described, as characterizing the stage of collapse, several remedies have been suggested to remove them ; and these it will now be the object to consider seriatim ; premising however this general observation, that the treatment to be pursued, should be based upon nearly the same principles, as would guide us, in promoting reaction, during the cold stage of an ague. For it is observed in this disease, as in the latter, wherever the action of the heart has been restored, the circulation equalized, the secretions to have returned, and the animal heat to be, as it were, rekindled, the present danger is in some degree passed ; when, on this fortunately taking place, the principles to guide us, in the subsequent treatment, will be nearly the same, as those followed, in continued fever.

The stage of the disease as now delineated, being attended by diminished nervous energy, and almost, as it were, obstructed circulation; stimulants and cordials are therefore, obviously indicated. But their employment, must of course have reference, to the constitution of the patient, and the urgency of the symptoms. The heat of the body, seems in the first instance, to be what it is most desirable to restore; for this purpose, warm flannel or blankets, hot plates, and similar topical applications, should be applied, whilst local frictions, to allay spasms, and restore the circulation of the extreme vessels, are to be assiduously employed. At the same time, hot enemata, containing either turpentine or laudanum, and sometimes both together, by communicating internal warmth, and thus directing the force of the circulation to the surface, will be found equally efficacious. Indeed, this practice has been too much overlooked, notwithstanding the remarks of many Indian, as likewise of English practitioners, in its favour. Occasionally, the warm bath has been employed, but the debilitating effect of this remedy, has usually been found injurious; therefore it may be taken as a general rule, wherever heat is employed, the application should be unaccompanied with moisture.

Emetics have enjoyed considerable reputation, in this stage of the disease; mustard, ipecacuanha, and common salt, being most usually exhibited. One reason for the employment of such remedies, is to promote a free discharge of bile, from the biliary ducts; since it has been remarked, wherever this secretion has been observed, in the evacuations, the patient is more likely to recover. At Vienna, the use of mild emetics of ipecacuanha, followed by strong and hot chamomile tea, with a large proportion of salt, was found very benefi-

cial. At Sunderland again, mustard emetics were more frequently prescribed ; and certainly, wherever the stomach has been overloaded, with improper food, previous to an attack, these remedies may be useful ; but care must be taken, not to push the emetic operation, to any great extent.

Opium is the next remedy, which deserves to be mentioned ; and perhaps no medicine has been so frequently exhibited. The best mode for employment is in the solid form ; and in cases, where it is judiciously administered, the greatest benefit, sometimes follows its application. It allays irritation, prevents cramp, and likewise induces repose, effects always of great utility to the patient. Physicians generally exhibit this remedy, in rather large doses ; but this would appear, from the experience of others, not to be always the most judicious practice ; smaller quantities, frequently repeated, being considered better adapted, for the purposes intended ; since, opium in small doses, develops its stimulant property, whilst in larger, it acts more as a sedative.

Ammonia, being one of the best of our diffusible stimulants, in the *Materia Medica* ; is well adapted, for carrying into effect, the object of endeavouring to promote reaction ; the dose should therefore be large, and frequently repeated. Upon the same principle, for which ammonia is administered, æther, peppermint, cajuputi oil, and the like remedies, have been recommended. Cajuputi oil was at first thought, to be almost a specific ; and great benefits were expected from its employment ; these not having been realized, the remedy soon fell into almost total oblivion ; till subsequently, attention was again directed to its virtues ; and at one of the cholera establishments in London, consi-

derable efficacy followed its employment ; nevertheless, the cajuputi oil cannot be considered equal in its operation, to ammonia.

Camphor, although beneficial, has not proved so efficacious as either opium or ammonia ; however, there are some cases, in which it will be found useful ; and sometimes, by combining camphor along with opium, the administration of the two together, will be of considerable benefit ; more particularly, in allaying that irritability of stomach, so frequently present, and distressing to the patient.

Æther and brandy, are considered excellent auxiliaries, but especially the latter ; and diluted with warm water, it constitutes one of the best stimulants we possess, and hence is very often found most advantageous, by appearing to rekindle, as it were, the vital spark, when almost extinct. The remedy may be exhibited, in doses of about half a table-spoonful, every quarter or half an hour, till the desired effect is produced ; but cautiously continued, lest too great a quantity be swallowed ; at the same time, ammonia has sometimes been combined. Upon the same principle, wine may be administered, and several cases have occurred, where this was beneficial ; but brandy, however, is generally preferable.

Mercury, although not altogether a stimulant, yet, from its powerful operation upon the system, has almost universally been employed in this complaint, and often with the greatest advantage. Calomel is the preparation, most usually prescribed ; and in this country, as likewise in India, this remedy has always held the highest rank, amongst the means for curing the disease. In more mild cases, the calomel may be exhibited, in doses from one to three grains, either by itself, or what

is thought to be better, combined with opium. In the most severe examples of cholera, the quantity should be much larger, sometimes even to the extent of a scruple at a time; but five grains, with one of solid opium, repeated every two or three hours, according to the effect, will generally be sufficient.

Calomel was very generally prescribed, in treating the epidemick of India; and certainly, few remedies were found to be more successful in the hands of Eastern medical practitioners, than this one; either given by itself, but more frequently, in combination with opium. In this form, it had a beneficial effect, in allaying vomiting, when the disease was neither too far advanced, nor the collapse overwhelming. In cases of a moderate severity, this remedy was found to be exceedingly useful, in restoring the functions of the liver, so as to promote the secretion of bile; and Mr. Ogilvy of Bombay reports, where the calomel affected the mouth, the consecutive symptoms of bilious fever, were not observed. Considerable benefit will also sometimes be obtained, by combining the calomel along with camphor, or carbonate of ammonia.

In the employment of stimuli, with the view of promoting reaction, great caution must always be maintained, lest inflammation of the villous coat of the stomach be induced; a consequence, which even sometimes supervenes suddenly, after the stage of collapse has been overcome. In the use therefore of stimuli, the state of the pulse must be narrowly watched, the condition of the surface carefully examined; and the moment reaction appears to have been induced, the farther administration of stimuli, must be intermitted, or at least, very sparingly employed.

Frequently, there exists such an extreme irritability

of the stomach, that remedies will scarcely remain, a sufficiently long time in that organ, to produce their desired effect. Under these circumstances, the object to be kept constantly in view, will be to allay this irritability; as well to remove a serious symptom, as likewise, to pave the way, for farther treatment.

Small, and frequently repeated, doses of opium, is decidedly the best single remedy, we can use, under such circumstances; but a combination with other medicines, will even prove more useful; and of these, camphor and some aromatics, are the best adjuncts. In many cases, small doses of laudanum, camphor mixture, and cinnamon water, will remain on the stomach when every other remedy will be rejected; and if to such a combination, a few grains of sulphate of magnesia is added, the medicine will still more likely be retained; since, if the great irritability of this organ, is but allayed, a material step has been made, towards ultimate success. The above mixture was found exceedingly beneficial, in the milder cases of cholera, occurring in former years; and in those of the present season, it proved efficacious, in allaying the nausea and sickness; thus preparing the way, for more powerful remedies; to administer which, without being retained, the treatment becomes almost nugatory.

Blood-letting, like the question of contagion, has proved a source of considerable difference of opinion, amongst medical men; some physicians having strenuously advised its employment, even in the very worst cases of collapse, whilst others, with equal zeal, and apparently with more reason, have as decidedly condemned the abstraction of any blood, until reaction has commenced.

The views entertained, by those advocating venesec-

tion, are, to equalize the circulation, and to relieve the heart, by unloading the great vessels, so that this organ having less to perform, in propelling a diminished quantity of blood to the extremities, the reaction will thereby, be sooner produced. It has likewise been thought, the blood itself being vitiated, the removal of a part will be beneficial, instead of injurious. In support of this theory, the fact is often appealed to, if the blood flows freely, during blood-letting, the patient is benefited.

However, to consider a rapid flowing of the blood, as proving the utility of venesection, in causing reaction, appears rather an inconclusive mode of reasoning. Reaction has commenced, when the blood circulates rapidly in the vessels; and the latter is in consequence of the former; therefore, to consider blood-letting to produce this effect, is apparently more hypothetical, than fully demonstrated. Experience likewise shows, when this disease first broke out, in any particular district, venesection was often performed; but after a little, it lost much of its reputation, and ultimately, was very seldom employed, since, the practice did not always agree with the theory.

When the disease first appeared in London, last February, many of those attacked, were bled; but latterly, this practice became less indiscriminately followed; and in Southwark, where the greatest number of patients occurred, the experienced practitioners of that district, had in great part abandoned blood-letting; trusting to calomel, opium, external heat, and the other remedies already described. Until reaction has commenced, unless in strong, plethoric individuals; persons however, who are less liable than most others, to this epidemick; blood-letting seems very seldom to be

admissible. And if physicians would consider, the diathesis of the disease, the constitutions of those affected, and other collateral circumstances, attending the case; instead of taking away blood, they would almost be tempted, to increase the quantity of that fluid, already in the system; or at all events, if such were in their power, to improve its quality.

The employment of the lancet, in the treatment of cholera, requires great judgment and discretion; for here, as in any other disease, to know when to take blood, and when to refrain, is always a most difficult point to decide, even with those of great experience. And although, most cases of cholera, do not admit of the operation, still there are instances, where it must be employed; as in young, plethoric subjects, whose pulse is full, and the temperature not reduced. The quantity taken, should not be large, from six to eight ounces, will be sufficient, as the operation may be repeated, if necessary. In India, Mr. Annesly was a strenuous advocate, for the abstraction of blood; and he remarks, when the fluid changes, from a black, thick, and carbonated appearance, to a natural, red colour, the termination of the case is hence, more likely to be favourable. But this relates to the eastern epidemick, not the European.

Transfusion, has by some physicians been recommended, with the view of increasing the quantity, and improving the quality of the blood, and to assist, in producing reaction; but hitherto, without success. Perhaps, the difficulties attending the operation, may have in some degree, interfered with the result. Should therefore, any one feel desirous of making the experiment, the syringe recommended by Dr. Blundell, ought to be used, as there is thus, less chance of air being

introduced into the vein; and besides, the operation will be otherwise considerably facilitated.

Other physicians again, from considering the peculiar condition of the blood to have a material influence in the production of this disease, they have consequently attempted to improve the quality of this fluid, by chemical means, with a view, particularly, of imparting oxygen; but as in the case of transfusion, however ingenious the theory, the success has not always equalled expectations.

Conceiving the cholera to approach, in its nature, a good deal to that of intermittent fever, and more especially, from shivering having in some cases occurred, cinchona bark was accordingly at one time recommended; even in the very worst forms of collapse. If the stomach were less irritable, perhaps more benefit might follow its employment; but unless there is a decided remission, succeeding the collapse, the remedy may as well be deferred, till a future stage of the disease; when it would be found more beneficial. Undoubtedly in those cases, where blood-letting is considered advisable, bark cannot be a judicious remedy, nor in those, where there are, either local congestions, or any tendency to inflammatory action; under these circumstances therefore, this tonic should not be prescribed.

After decided reaction has been established, by appropriate remedies, or where it has already commenced, when the patient is first visited; the treatment must proceed upon very different principles, from those guiding the physician, in the stage of collapse. Blood-letting, generally inadmissible before, may now become imperative; and either venesection, or local means, should be employed. The state of the pulse, being of course, a principal guide, in selecting the mode, for

abstracting blood. If there are local congestions, the application of leeches, or cupping, is better adapted to the case, than general blood-letting; and should this stage of the disease, be attended, as it is sometimes, with cerebral symptoms, indicated, by the vessels of the conjunctiva being loaded, by pain of the head, and similar phenomena; then, leeches to the posterior part of the head, and the temples, will be found most advantageous.

Blisters prove likewise, of the greatest service, in the stage of reaction; especially, when there is considerable cerebral affection; and should any tenderness of the abdomen exist, this remedy may likewise be applied to that region, being either preceded, or not, by leeches, according as the symptoms may seem to require. Sinapisms to the epigastrium, to the thighs, and other parts, as derivatives, have been strongly recommended; and at one time, large mustard poultices, were in considerable repute; but latterly, they seem to have almost lost reputation, and are now seldom employed. Upon the same principle, certain rubefacient, and irritating applications, were recommended, as applications to the abdomen; such as tartarized antimony, oil of turpentine, camphor liniment, by itself, or with tincture of cantharides, as likewise mercurial liniment with camphor; but hitherto, little benefit seems to have followed the use, of such topical remedies.

Should the stage of reaction, be accompanied with any symptoms of a determination to the chest, then, whatever will promote healthy action, in the abdominal viscera, will have a beneficial effect, in relieving this pulmonary affection. For such purposes, small doses of calomel, or blue pill, and extract of conium, with

squills or ipecacuanha, are considered the best adapted remedies ; along with blisters to the chest, and leeches ; or even blood-letting, if the symptoms are so urgent, as to warrant its employment. But to enter minutely, into every variety of symptoms, which may accompany the stage of reaction, would extend the limits of this essay, beyond the original intention ; besides being almost unnecessary, since the treatment of this stage, and its various forms of manifestation, must be directed, upon the same general principles, of pathology and therapeutics, as physicians follow, in analogous cases, or under similar circumstances of disease.

Before however concluding this part of the subject ; a general outline of the modes of treatment, recommended by different authors, may be instructive, as well as useful ; of these, the first requiring attention, is undoubtedly that of Sydenham, whose description of the disease, as it appeared in his day, has been so frequently mentioned ; consequently, the remedies he employed, should likewise be described.

Sydenham observes—" Much consideration and experience have taught me, that to endeavour on the one hand, to expel the sharp humours, which feed this disease, by *purgatives*, would be like attempting to extinguish fire with oil ; as the most lenient cathartics would increase the disturbance, and raise new tumults. And, on the other hand, to check the first efforts of the humour, in the very beginning, by *opiates* and other *astringents*, whilst I prevented the natural evacuation, and forcibly detained the humour in the body, would doubtless destroy the patient, by an intestine commotion ; the enemy being pent up in the bowels." With

These observations, Sydenham advises warm chicken broth to be taken, at the same time that injections were to be used; afterwards he added to both remedies syrup of lettuce, violets, purslain and water lily; and ultimately, opiates were to be given; which indeed, was the remedy, principally depended upon, in the treatment of this disease.

Morton, in mentioning the cholera morbus of his time, seems to follow a good deal, the opinions of Sydenham, since, in the treatment he pursued, like that author, he advises chicken broth to be taken internally, and also employed as an enema. Fomentations, and aromatic applications, were to be rubbed upon the region of the stomach, as likewise, liniments; and carminative plaisters, or in other cases, blisters were to be applied. Cardiacs, opiates, astringents, and stimulants he recommended to be taken internally. Latterly, the peruvian bark with laudanum, was to be prescribed, so soon as there was any remission, of the more violent symptoms; although this treatment was occasionally also employed, in the worst period of the disease. Regarding blood-letting, about which, so much has been said in modern times; Morton was a decided enemy to the practice; as the following paragraph from his work will confirm. “In cholera morbo, præcepta ante memorata observentur, nisi quòd rarò, aut *nunquam*, venæsectio celebranda sit.”

The treatment followed by Frank, in some degree resembled that of Morton; since he recommended chicken broth and diluents, in the first instance, with, in some cases, blood-letting; but regarding this remedy, he appears, like Morton, to be averse to its employment; as the following quotation from his work on the cholera, indicates. “Venæsectionem in cholera, nostris

non paucis, et felicibus observationibus innixi, rejiciendam esse putamus." In imitation of the ancients, Frank recommends cold applications to the epigastrium ; unless there appeared extreme exhaustion, when such remedies were not beneficial. Wine was to be administered, in small portions at a time ; and effervescing draughts, although useful, yet as valuable time might thus be lost, more efficacious remedies ought to be preferred. Of these, the chief was opium, and upon it, Frank principally depended ; indeed, he calls opium, the divine auxiliary. The dose, instead of large, should be small, and frequently repeated ; about fifteen drops, every quarter of an hour, he thought sufficient, until the desired effect was obtained ; when the quantity ought to be diminished. Injections of beef tea, thickened by starch, or yolk of egg, along with laudanum, were likewise to be employed ; at the same time, the extremities were rubbed with hot wine, in which aromatic herbs had been infused. When any approach to shivering appeared, or there seemed a tendency in the disease, to assume the type of a pernicious intermittent fever, then, peruvian bark, along with opium, was to be prescribed. The severity of the attack, having been overcome, by the above treatment, an infusion of calumba root, and tincture of steel, were then advisable ; but regarding the use of calomel, in the treatment of cholera, Frank had little experience.

So much for the treatment recommended by early authors ; amongst the modern, may be mentioned M. Benoit, who advises internally, a combination of camphor, laudanum, and æther, at the same time, that he recommends the external use of sinapisms, to the extremities and abdomen ; which he found very useful in 1820, at Manilla. At Java, Dr. Peitsch thought la-

vender, mint, and laudanum, exceedingly beneficial in checking the vomiting ; whilst magnesia was found by M. Milward, to remain upon the stomach, even after other remedies had proved ineffectual. Ammonia and musk again, are spoken of favourably, by Mr. Craw, a surgeon on the Bombay establishment ; and Dr. Mouat, already referred to, generally employed scrupledoses of calomel, with blood-letting ; and magnesia, he found very useful, for the vomiting ; blisters to the epigastrium, were also a favourite remedy with this author, and the treatment of the disease he adopted, often terminated with purgatives.

In Russia, Poland, and Germany, moxas, and the actual cautery to the spine, were often employed ; whilst the magisterium bismuthi, as stated in Sir W. Russell and Sir David Barry's dispatch, was thought to be beneficial ; but others again considered the remedy injurious ; in this country however it has been very little employed ; whilst neither the moxa, nor the actual cautery, has been much thought of, or adopted.

At St. Petersburg, blood-letting, calomel, and opium, were frequent remedies, along with external heat, and local irritation ; which latter were reported to be successful means, in the treatment of the disease. But warm baths, the physicians of that country, considered of very doubtful efficacy ; excepting, at the very beginning of the attack, and even then, only in cases of moderate violence, since in many patients, they appeared to produce debility instead of restoring the circulation to the surface ; one of the chief points in view, with those, sanctioning their application.

At Moscow, during the greatest prevalence of cholera, blood-letting was frequently employed, in young, plethoric, and well-fed individuals, exhibiting the or-

dinary stages of the malady, and before the pulse had become imperceptible. Dr. Keir, a physician having great experience in the treatment of this malady, observed blood-letting to be prejudicial, in the most intense form of cholera, or when the operation was late in being employed. In these cases, large doses of calomel, with opium, followed by stimulants, purgatives, and enemata, were then most useful.

When the disease appeared in Vienna, the treatment was at first very active, but ultimately, less powerful remedies were employed: and of these, mild emetics, with sudorifics, followed by strong hot soups, seemed most beneficial; and by this mode of treating cholera, the rate of mortality, is reported to have then become materially diminished.

During the prevalence of this disease at Warsaw, Mr. Searle, an English gentleman, then in the medical staff of the provisional government, considered very warm blankets, in an airy apartment, useful subsidiary measures; whilst vomiting was to be promoted, by drinking freely of warm water, in which common salt had been dissolved; afterwards blood-letting, and then calomel, in doses of from ten to twelve grains, should be exhibited; the remedy being washed down, with hot brandy and water. This combination was to be repeated, every hour or two, till an amendment in the symptoms became manifest, when the doses were to be diminished; and then followed up, by a mild aperient. Enemata, sinapisms, frictions with liniments, and ligatures, to relieve the cramps, were likewise found to be beneficial.

Other authors might be quoted, if thought necessary, in order to detail their opinions, as likewise to show, the diversity still existing, in the remedies recommended;

but enough has been said, on this subject, more especially, as it cannot have escaped observation, that in treating cholera, the more a physician is guided by those great leading principles of pathology and therapeutics, which are usually adopted, in selecting remedies, and in advising measures, for the cure of diseases in general, so will the treatment in this, be in the same degree successful. For generally speaking, wherever theory and preconceived notions, regarding the nature of a complaint, and its mode of propagation, materially influence the remedial measures employed, instead of being correct and successful, they may as likely prove, to be useless and erroneous.

CHAPTER XVII.

RATE OF MORTALITY AND DISEASE, IN LONDON;
IN 1830, 1831, AND 1832; FOR THE MONTHS OF FEBRUARY, MARCH, AND APRIL.

DURING the discussions on cholera, a great deal was said of the danger, and devastating influence, to be apprehended from the pestilence, which had overrun other countries; whilst the imaginations of a few, painted the effects of the disease, in so strong a light, as to make them think, the metropolis would be depopulated, should it actually arrive. It has even been acknowledged, the very thoughts, caused sleepless nights, and anxious days; believing nothing could be more certainly dangerous, than attendance upon those, suffering under the excruciating agonies of the disease. Now, it is not meant to make light of, or to disparage the

feelings of those, who entertain such opinions ; because, they derive these sentiments from a source, showing their minds are alive, to the sufferings of their fellow creatures. Nevertheless, as one who thinks differently, and feels anxious, if possible, to allay the fears of the timid, but not to make others fool-hardy, or thoughtless ; in proof, that there is yet not very great cause of alarm, reference may be made to the weekly bills of mortality, thereby showing, notwithstanding this scourge has been amongst us, the number of deaths is not much augmented. And although the average for the present season, appears greater than for some years back, perhaps, by the end of the entire year, there may not be so considerable an increase, in the number of deaths, as we might at present, be led to anticipate.

Nothing is perhaps more difficult, than to ascertain the exact amount of burials, or deaths, in the metropolis, for a particular number of weeks ; as reports are not always regularly transmitted ; but sometimes two or three weeks, are put together in one return, from a particular parish ; so that weekly comparative tables, are not to be so much depended upon, as when a whole year is comprised. However, taking the bills of mortality, as they are published, in every week ; the following table exhibits the actual number of burials, within the metropolis, during the same parallel number of weeks, of each of the years subjoined ; that is, for the season, when cholera was lately prevalent.

Total Burials in London, by bills of mortality, during thirteen weeks, ending,—

May 1	May 2	May 2	May 3	May 5	May 4	May 4	May 1
1810.	1815.	1820.	1825.	1829.	1830.	1831.	1832.
Bur.	Bur.	Bur.	Bur.	Bur.	Bur.	Bur.	Bur.
4964	4555	5516	5490	6514	5966	5540	7768

With these returns, may be contrasted, the number of burials, for the same period, in former years; *viz.* for thirteen weeks, ending,—

May 3	May 5	Apr.30	May 3	Apr.29	May 2	May 2	May 4
1669.	1690.	1700.	1720.	1735.	1758.	1769.	1773.
Bur.	Bur.	Bur.	Bur.	Bur.	Bur.	Bur.	Bur.
5205	5199	4930	7834	6381	4503	6005	6488

In reference to these returns, and as illustrating a point, already fully discussed; it should be known; that during the year 1831, forty-eight deaths, from cholera morbus, are reported to have occurred in the metropolis; and of these, eight took place, previous to the 1st of March; that is, long before the alleged importation of the disease, into Sunderland, or its appearance epidemically, in any other part of the empire.

Calculating the average rate of burials, within the bills of mortality; sixty-five persons die every day, in ordinary seasons. During the three months, of 1832, already referred to, the daily average was eighty-five and one-

third; and were the same even to continue, throughout the whole year, the increase (7421), would not be such as to create astonishment; considering the population of London, their habits, and unfortunately, their miseries and privations.

From these tables, it will thus be perceived; the number of burials has been greater the present season, than in any former one; the year nearest approaching to it, being that of 1829. During the last century, however, the deaths in the spring quarter of 1720, exceeded those of 1832. One circumstance is also worthy of observation, and appears even more remarkable, than the occurrences attending the plague of 1665, that is the large proportion of deaths (2557 out of 7768), reported this year, from the parishes on the south side of the Thames. Thus in the three months before mentioned, almost one-third the whole deaths, occurring within the metropolis, have been in that district; a number, quite out of all proportion, to the population. Indeed, the great excess in the deaths, may with justice, be said, to have taken place, in that quarter of the town; where, according to the ratio of population, instead of one-third, there ought to have occurred, perhaps not more than one-sixth. Compared with this, reference might be made, to the north bank of the Thames, and particularly to the city, which by all, is acknowledged to have been unusually free from cholera; as likewise of late, generally healthy; thereby adding another proof, to the many already existing, of the great wisdom, our ancestors exhibited, in selecting this spot, for the building of their capital.

Notwithstanding the abuse those ignorant of facts, may sometimes cast upon the City of London, from thinking it not to be a situation, conducive to health,

or longevity ; the experience of former years, and more especially of the present, proves the contrary. And the circumstances being under our own immediate observation, they ought to make greater impression ; since it can be shown, very few places, are really so healthy, as the centre of London. This may be easily believed, when we consider its position, on a rising ground, dry, and gravelly, devoid of miasmata, well drained by sewers, and having a most abundant supply of water ; in short, besides the many advantages it possesses, over every other capital, the constant flowing up and down of a mighty river, and so carrying off all impurities, is not the least important ; whilst the underground buildings, excavations, and consequent freer ventilation, have likewise materially contributed, to improve a naturally healthy situation.

Compared with most parts of Westminster, and Southwark, the City of London, may well be reckoned, a much healthier habitation ; and more conducive to longevity, than several other places, thought by the public, to be otherwise. One strong and unanswerable proof, showing the salubrity of the city, is exhibited, in the great age, at which many persons arrive, who were born, and have constantly resided in London. This may be ascertained, by making inquiries amongst the old residents, and especially, the members of the different city companies ; most of the oldest of them being natives, and have lived there constantly. From no capital in Europe, could so much evidence be brought forward, in support of its superiority in these respects, as from the metropolis of England. And if any doubts existed before, recent occurrences must surely have dispelled them, and demonstrated the superiority of the situation of London, and its effect upon public health ;

not only when all the circumstances are contrasted, with the events in other capitals, where the late epidemical disease has prevailed ; but likewise, the very marked salubrity, particular spots of the metropolis have exhibited over others ; as in the instance above mentioned, of the Borough ; which may be placed at one end of the scale, the city at the top, and St. Giles's, without its common sewers, occupying the centre.

Individuals, who have never visited foreign capitals, or other climates than their own, often feel disposed to condemn the really great benefits they enjoy ; whilst they are anxious to obtain, what is not in their power, or nearly impossible to acquire. This feeling is evidently seen, in those sentiments of dislike, so often uttered by natives, against English climate, and English mode of living ; a theme, upon which the discontented, and the ignorant, are so eloquent, and loquacious ; but if every circumstance was examined, with an unprejudiced mind, they would soon acknowledge, does not deserve such unmeasured condemnation.

Compared with Vienna, Berlin, and Paris, nothing could be more clearly demonstrated, than the superiority of the situation, and climate of London, to any of these capitals ; for to this, the mode of living, the constitutions of its inhabitants, and other collateral considerations, must be owing the diminished extent of a disease ; which elsewhere, has proved so destructive. Invidious comparisons are always odious, especially where the inferiority is more a misfortune than a fault ; however, as an inquirer after truth, and as a person, who for some time resided, in all the capitals just mentioned ; there is nothing whatever surprising, in the severity or extent exhibited, by the epidemical disease lately prevalent, if the nature of the localities, the consti-

tutions of the inhabitants, their mode of living, and other circumstances are considered ; since upon these alone, this strikingly marked difference, can be easily explained.

Having frequently, in the course of this inquiry, had occasion to make a reference, to the bills of mortality, published weekly, by the company of Parish Clerks ; it is but due to Mr. Wheeler, the secretary of that corporation, gratefully to acknowledge, the readiness and urbanity, with which, he always received any application, to inspect these valuable documents, now regularly filed, and have been so, for upwards of two hundred years ; thus forming one of the most curious, and important registers, perhaps in existence. They might undoubtedly, be much more perfect than they are, both as regards the number of deaths, and also, as indicating the nature of the diseases, proving fatal. But considering the limited power the corporation possess, and the little assistance, they receive from government, for obtaining information ; it is somewhat astonishing, the registers are kept so accurately. Mr. Wheeler, in his anxiety to improve these reports, and to make them, what they ought to be, a correct table of births, deaths, and diseases, within the metropolis, has, besides making himself, considerable improvements, several times represented the subject to government ; and it is much to be wished, his suggestions may be adopted. For accurate information, on a subject of so much importance to the community, as the state of public health, must always be interesting and instructive.

Believing, it might be conducive, towards illustrating the influence, those peculiar causes producing the cholera, might likewise have upon other affections, tables

have been drawn up, to show, whether the presence of the late epidemick, has increased the number of patients, affected with other diseases. It is a well-known observation, that maladies have a tendency to assume the diathesis, any prevalent epidemical complaint exhibits ; and if one class of diseases more frequently prevails, in the others, there is generally a diminution. This peculiarity, is perhaps more marked, in febrile and acute complaints, than in any other ; and a knowledge of the tendency now mentioned, frequently serves as a useful guide, in regulating the treatment to be pursued, and the measures to be instituted.

Some physicians feel disposed to believe, this to have been the case, during the time, the cholera was so common in England ; undoubtedly, that alterations have lately taken place, in the constitution of the atmosphere, joined to some other general causes, whereby the character of disease, has been materially influenced, was the subject of daily remark, by medical men. And this appeared, as well, by the late diminution of inflammatory complaints, usually observed in the cold season, as likewise, by the diathesis exhibited, and treatment required, for those which have actually prevailed. Most diseases, indeed, lately assumed a decided character of debility ; and at the same time, showed a great want of tone in the nervous, and vascular systems ; so as to require the administration of tonics and stimulants, even at their commencement. Whereas, in ordinary years, the great majority of diseases, in this country, are, for the most part, those exhibiting excitement, at least, in the beginning ; and it is only afterwards, that debility supervenes. However remarkable, it was observed by many physicians, that several diseases of the chest, which from the symptoms would indicate the necessity

of blood-letting, and the like remedies, required the use of bark and æther. And this has been met with, not in individuals of the lower ranks, but even in those of a superior condition. The fact is instructive, and shows that some great influence was in operation, to lower the tone of the animal system. This peculiarity, scientific men endeavoured to account for, by ascribing it to changes in the atmosphere, to electricity, to emanations from the earth, to the lately very frequent south-east winds, to volcanic eruptions, and similar phenomena.

Every person knows, the prevailing character of disease, in this country, to be towards inflammation; the experience of the medical profession, and even the knowledge of the public, will demonstrate the truth of this observation; at the same time, it will be admitted, comparatively fewer cases of inflammation, and of fever, have occurred during the last year, than ordinary. At St. George's Dispensary, the fact was most marked, how very seldom the lancet was required; whilst on the contrary, bark and tonics were employed, more frequently than ordinary.

This, and other circumstances, previously mentioned, would seem to sanction a speculation, theorists might be induced to venture upon, as explaining, the appearance, and diminished extent, as well as the mortality of cholera in England, when compared with other countries. The disease lately so prevalent, is undoubtedly of an asthenic diathesis, which, on attacking individuals, whose natural tendency is to inflammation, there are consequently greater powers of resistance to overcome, ere it can be extensively developed. Should however, those influential causes continue long, and in full opera-

tion, the tone of the animal system may be shaken, debility, instead of an inflammatory diathesis, established; and thus, in the end, a complaint, which at first, made little progress, may ultimately spread most extensively. This was observed in the days of Sydenham, and the same might perhaps be again repeated; should the human body, be so debilitated, as to induce an asthenic diathesis, in the constitutions of a population.

Correctly to ascertain the average quantity of disease, at any particular season, in such an extensive population, as that of London, is almost impossible. However, a pretty near approach to the truth, may be made, by comparing the number of patients admitted, at all the public dispensaries, situated in different neighbourhoods; as for instance, at the period the epidemic cholera was prevalent; with those treated during the same season, in former years. The medical officers at dispensaries, are sure to feel any change, either in the number or nature of diseases, most common amongst the poor of the metropolis; because, these institutions are open daily, a letter is easily obtained, and there is no limitation to the number of admissions; if the sick person has only the recommendation of a governor. Hence, these establishments may almost be considered, as the indices of public health. The out-patients at hospitals, are almost similarly situated, excepting the admissions are generally only once a week; but in regard to in-patients, the comparison does not altogether hold, for the beds being limited in number, not more than to fill them, can be admitted.

By the first table of returns, we find the total number of patients, affected with medical diseases, admitted

during the months of February, March, and April, at the subjoined dispensaries, were as follows:—

	1830	1831	1832
Mary-le-bone	422	441	395
Chelsea	338	288	273
Bloomsbury.....	521	643	597
St. George and St. James	337	308	233
University	260	213	192
Bishop's Court	781	532	537
South London	183	169	264
	2842	2594	2491
Westminster; Register defective, for 1830	—	297	256

From these data it appears, the number of medical cases was less, the present year, than in either of the two former; the only decided exception, being the South London Dispensary; at the others, there is a diminution.

The next list, unlike the former, comprises both medical and surgical patients, admitted from the 1st of February, to the 1st of May; as separate entries are not kept, for the physicians, at these institutions.

	1830	1831	1832
West London	263	249	242
Western	789	729	678
Surrey	1259	1212	1381*
Northern	362	418	315
Finsbury	1218	1225	1145
Aldersgate	1003	1049	984
Farringdon	221	487	244
London	602	599	782
Eastern	254	279	326
Tower Hamlets	260	209	188
	6231	6456	6285
City (in Queen Street), Register for 1830, is missing	—	1420	1482

By these tables, it will be at once perceived, the average quantity of sickness, has diminished, during the prevalence of the late epidemical disease. A fact, which might even have been expected, from considering the circumstances mentioned, regarding the ordinary tendency of diseases in this country, being towards inflammation; because, if any influences should come into operation, having an opposite action; inflammatory complaints, are less likely to be produced. At parish infirmaries and hospitals, the same result, has been obtained, as from dispensaries. In parish infirma-

* The cholera patients are here included, as this institution was benevolently thrown open, to all applicants, without a letter of recommendation.

ries, correct registers are seldom kept, and at hospitals it is difficult to obtain the numbers, for a limited period; but there is not a doubt, and this is said, after making inquiry, the number of patients, who have received benefit, at most of these useful institutions, was not greater in 1832, than in previous years.

Returns from all have not been obtained, but those now stated, will in some degree prove, what has been advanced; as already understood, they are only for the months of February, March, and April; and comprise none but out-patients, for the reasons before assigned.

	1830	1831	1832
St. George's Hospital	1040	997	1024
Middlesex Hospital	994	1072	977
Westminster Hospital	832	842	813
London Hospital	1456	1509	1872

At both the Borough hospitals, there has not been any increase in the number of patients, but rather a diminution; especially at St. Thomas's.

To these may likewise be added the following; as they are important in regard to the present inquiry. Of course, they refer to the same three months.

	1830	1831	1832
Fever Hospital	127	181	153
Small-pox Hospital	69	59	66
Mary-le-bone Infirmary	704	765	479

During the prevalence of the late epidemical disease, a great deal of attention was directed to the health, of the inhabitants of Mary-le-bone parish. By these tables, it would appear, there was no real cause for alarm, as both in the parish infirmary, and at the dispensary, there has been a considerable falling off, in the number of patients; thus in 1830, at both places, the total was 1126; in 1831, there were 1206; but in 1832, only 874 are reported; being almost a diminution of one-third. In Whitechapel again, where cholera was likewise prevalent, and which is an extensive district, having many poor, and not of the most healthy description; Mr. Reed the parish surgeon reports, the number of sick was, “considerably less this season, than last, and there have been fewer cases of fever.” This is likewise corroborated by the returns from the Fever Hospital, where the cases admitted, were less by one-seventh and a fraction, in 1832, than in 1831. More favourable accounts still, might be given, in regard to the health of the metropolis, at the present moment; for perhaps, there never was a period, when the inhabitants were so free from sickness and disease, as they have actually been, during the month of May, just terminated.

In general practice, according to the observation and experience, of the medical profession, there has been likewise, less sickness in London, amongst the middle, and upper classes of society, than usual. From all these corroborating facts, it may therefore be concluded, notwithstanding the presence, of a severe epidemical disease, which carried off, more than an ordinary proportion, of the worst fed, most debilitated, and unhealthy part of the inhabitants; the average quantity of sickness, has not materially differed, from ordinary

years, indeed, in some respects, it may well be said, to have diminished.

Such gratifying results, supported by the many convincing facts, above detailed, ought to be a source of consolation, and thankfulness, to the minds of the present generation ; whilst it should make them more than ever grateful, to Divine Providence, for the many blessings they actually enjoy, not only, as regards the numberless advantages and comforts they possess, over their ancestors ; but likewise, when compared with other nations, the people of England should be more than ever contented, on knowing, how differently they have been affected, by a disease, elsewhere a devastating pestilence, but in London, a malady of limited extent, and comparative moderation.

In concluding this inquiry, it is due to the medical, and other officers, of the numerous establishments in London, for the reception of the sick ; here to express many thanks, for their kindness, in furnishing those very valuable returns, embodied, and so frequently referred to, in the present chapter ; thus showing at one view, the number of patients admitted, at their respective institutions, during the three months, when cholera was prevalent in the metropolis, as also, for the two previous years. Whilst acknowledging the readiness, with which every inquiry was answered, the liberality and good feeling then exhibited, reflects great credit upon these gentlemen ; since documents have thus been obtained, both of importance and utility, not only in regard to the questions, more immediately under consideration ; but likewise, as furnishing data, from whence other inquirers, may deduce their own conclusions ; and at the same time, materials are therein presented, that may be of use, in future investigations.

APPENDIX.

THE three following very important documents, relative to the non-contagious character of cholera, were not received in time, to be embodied in the proper place of this essay; however, they are so conclusive, in support of the position, elsewhere taken up, that they cannot be passed over in silence, but ought to have every possible publicity.

I.

“ The undersigned, physicians and surgeons of the hospital of St. Louis, until their observations were made, upon a sufficient number of cholera patients, have deferred giving an opinion, upon the contagion, or non-contagion of the epidemick.

“ They now declare, they fully adhere to the deliberation of their honourable colleagues of the Hotel Dieu, regarding the non-contagious character of cholera; at the same time, they have found no traces of poison, in the bodies of cholera patients, who have died, and been opened.

“ Hospital of St. Louis, Friday, 6th of April, 1832.

“ Alibert,	Lugol,
Biect,	Manry,
Emery,	Gerdy,
Jobert; and subsequently, Richrand.”	

II.

“ The physicians and surgeons, of the hospital

La Pitie, have until to-day, refrained from giving an opinion, upon the contagion, or non-contagion of cholera morbus; they have waited ere pronouncing an opinion upon this subject, so that facts may assist them, in coming to a conclusion, so important, and which interests in so high a degree, the public tranquillity.

“ Now that the epidemick is upon the decline, and after numberless facts collected by them, both in the hospital, and elsewhere, have produced the conviction in their minds, that the cholera morbus is not contagious; they consider it to be their duty, to give this conclusion, all the publicity possible.

“ Paris, the 30th of April, 1832.

“ Serres,	Louis,
Clement,	Andral,
Perent du Chatlet,	Bouillaud,
Lisfranc,	Velpeau.”

III.

Declaration of the Westminster Medical Society, on Saturday evening, the 28th of April, 1832.

“ That the Westminster Medical Society, having devoted the uninterrupted space of six months, to the serious, and dispassionate consideration of the malady, which has been prevailing in England, since the latter end of September last, and especially in the metropolis; and having heard the several arguments, doctrines, and facts of the many members, practically, as well as theoretically engaged, in that important inquiry, declare; that, in the opinion of the majority of the society, the evidence brought forward, to prove the said malady a *contagious* disease, has completely failed; and that every circumstance, which has come to the knowledge of the society, shows the disease in question, to

have begun, progressed, and ended, in the ordinary way, of every other epidemic disease.”

Comment upon these deliberately expressed, and decided opinions, would be perfectly superfluous. However, notwithstanding the mass of evidence, brought forward from various sources, if an inclination should still linger in the minds of individuals, to believe in contagion, as propagating cholera, it would be an useless undertaking, to prove more strongly the untenability of the doctrine. In England, the advocates of this opinion, are now considerably diminished in number; and in Paris, whilst the great majority of the medical profession are non-contagionists; even the public generally, from lamentable, and dearly-bought experience, have likewise abandoned the notion, as wholly untenable.

T H E E N D.